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PART FIRST.

ORIGINAL COMMUNICATIONS.

ART. I.—*On the Climate, Diseases and Materia Medica of the Sandwich (Hawaiian) Islands.* By LUTHER H. GULICK, M. D., of Ascension Island.

THIS first attempt to collect and arrange systematically all the facts of medical interest connected with the Hawaiian or Sandwich Islands, is necessarily imperfect, but will, it is hoped, be not an unworthy contribution to the department of Medical Topography.

We will first notice the important elements of that which, Dr. T. C. B. Rooke remarks, "yet remains a parodox," viz.:

THE CLIMATE OF THE HAWAIIAN ISLANDS.

Before studying diseases themselves, we investigate their causes, and it is self-evident that a thorough apprehension of the producing and modifying agents of disease in any locality cannot be fully attained prior to a familiar acquaintance with the climate, for under this term are included several most potent predisposing and exciting causes.

The *Locality* of the Hawaiian Islands, geographically expressed, is from 18° 50′ to 22° 20′ north latitude, and from

154° 53′ to 160° 15′ west longitude. Situated so far both from the eastern and western continents, the group is most effectually removed from their immediate controlling influences so far as climate is concerned. The group lays on the northern boundary of the torrid zone—once each year the sun arrives at the zenith of its meridian. Its climate, so far as affected by relative position, ought, therefore, to be mild, equable, and salubrious—and such it may unhesitatingly be pronounced.

The *Geological character* of the Hawaiian Islands is strictly volcanic, the coraline element being very insignificant. Each island is emphatically rugged and mountainous. On Kauai, Maui, Oahu, and Hawaii, many of the elevations are of considerable altitude. On Maui, Mauna Haleakela is over 10,000 feet high, and on Hawaii, Mauna Loa is 13,760 feet, and Mauna Kea 13,950 feet in height. The arable and habitable parts of the land are in detached portions, thrown in among the hills or on their seaward slopes. The great body of the population occupy positions near the sea, which have an elevation above its level varying from ten to perhaps an hundred feet. In the central portions of East Maui and of Hawaii much higher localities are inhabited. Waimea on Hawaii, the highest village of the group, is about 4,000 feet above the ocean's level. The southern slopes of the islands are exposed to solar influences under much more favorable conditions for warmth than the northern, the rays of light and heat during most of the year striking them in lines nearer vertical, and therefore more favorable for absorption, which, combined with the fact that the most important winds are from the northeast, from which the southern aspects are sheltered by the central mountain heights, conspires to render the southern or leeward aspects of islands generally the warmer and dryer, and the northern aspects the cooler and more humid.

The *Soil* is peculiarly volcanic, consisting of the débris of the primitive rock, light and porous, hence readily parched and apt to take on the form of dust, yet incapable of long

retaining acquired heat. The climate is therefore readily affected, so far as it is influenced by the calorific capacities of the soil.

The *Streams* and so-called rivers, though redolent of poetry, are such insignificant bodies of water as to here deserve scarce a passing notice—from the necessities of the case, they are short and small. From what has been said, lakes would not be expected.

The *Winds* of the islands are important in their relations to the climate, and may, perhaps, be referred to four classes: 1. The Trade Winds. 2. The Land and Sea Breezes. 3. The Southwest Winds or Gales. 4. The Variable Winds.

The *Trade Winds* are most efficient agents for good in the climate of these islands. Situated as the group is, near the northern limits of the trade wind zone, when the trades, with the sun, have made their farthest advances northward, it is brought under their full action; but when the sun is in southern declension, and when the trades, following it, have made their farthest oscillation southward, the group is beyond their limits and under the action of that cloud-zone, under which there is a constant precipitation of moisture, and which ever hangs over that oscillating line just north of the trade wind zone, where, as by Lieut. Maury, we are taught that the northeast and southwest currents of the upper air meet. The trade winds blow steadily from the northeast about six months. They give way during the months of November, December, and January. October, February, and March, are debated months, during which, however, the trades generally predominate. Having fairly secured their ascendancy in the spring, they blow with remarkable uniformity, and often with "considerable violence, almost amounting to a gale." These breezes, pure and cool, arrive from their ocean voyage with much of humidity adhering to their unseen wings, from whence it is precipitated in frequent showers that fertilize the whole windward coast. They are the equalizers of torrid heat, and the correctives of all miasmatic exhalations. Their influence is felt on all parts; but

from what has been remarked of the high midland elevations, it will be readily seen that the southern and southwestern aspects are, in greater or less degree, protected from their direct effects. We therefore find two varieties of climate during the season of their prevalence. The one, on the northern and northeastern shores, cooler and more humid, for here the trades first kiss the green-clad isle, and drop their dewy tears of joy; the other, on the southern and southwestern coasts, dryer and hotter. The whole is expressed by the terms "windward" and "leeward."

These notices of the trade winds must be somewhat modified in reference to Hawaii, the largest and most southern of the group, which is so large (being 88 miles long and 68 wide, having an area of about 4,000 square miles) that it interferes with the force of the trades, and with their regularity, and allows the *Land and Sea Breezes*, in obedience to their own laws, on all its leeward border, and "in some degree even on its northeast coast, where the trades are usually freshest." The trades, in their passages over the comparatively small areas of the northern individuals of the group, are perfectly competent to effecting an equilibrium between it and the surrounding seas, and so, in the main, prevent the series of actions and reactions productive of the diurnal currents. But on Hawaii, the area being much greater, an equilibrium of temperature is not effected by the trades, especially on the southern coast, and immediately the land and sea breezes arise.

Of the *Southwest Winds*, which are the rainy winds, and which, being coincident in time with the superposition of the cloud-zone, produce the rainy season, it must be remarked that they are intermittent, blowing continuously for several days and weeks, and then giving place to the finest of inter-tropic weather, again to return. I quote from Mr. Jarvis' *History of the Sandwich Islands:*—"The southwest wind brings heavy rain, and is usually loaded with a briny vapor, which is deposited upon vegetation and causes it to wither as if touched with frost. Its effects are equally

disagreeable to the human system. Headaches, catarrhs, rheumatisms, and kindred diseases prevail during their continuance. Upon foreigners its influence is very obvious, causing a compression about the head, and an enervation which greatly incapacitates the body for all active business; the atmosphere is thick, raw, and at times feels like the heated air of a furnace. The miasms, arising from the lagoons, which exist to some extent near Honolulu on the sea side, are blown back upon the land. By the natives it is known as 'the sick wind,' and with great propriety."

The *Variable Winds* occur during the same part of the year with the southwestern, viz.: during the winter. The following table exhibits the number of days of the prevalence of each wind.

	Trade Winds.	Southerly Winds.	Variable Winds.
At Honolulu.....1837	295	44	26
" " 1838	258	71	36
At Waioli 1845-6	220	146	

Hurricanes and tornadoes, by virtue, perhaps, of the group's remote position from neighboring lands, are unknown, and thunder-storms are rare and mild, which indicates that the electric conditions are subject to no great or sudden alternations—a circumstance favorable to health.

Such *Udometric*, *Barometric*, and *Thermometric* facts as I have been able to collect, shall be presented, together with a few additional details regarding the winds. I very much regret my inability to secure all such tables which I know to be published.

Com. Wilkes, in speaking of the same place, remarks:—"It rains nearly nine months in the year, and, from the rainbows formed by these passing showers, it has obtained its name, which signifies the land or place of rainbows—'Halelea.' A few days of dry weather are quite unusual. During three months, included in the above nine, rain fell on fifty-two days; fourteen were cloudy. During the remaining twenty-four the weather was clear, but it rained occasionally at night."

Rev. Mr. Johnson's Meteorological Table for 1845–6, at Waioli, on Kauai, is interesting, as being the only one I have of a locality on the windward side of any of the islands. This table was first publised in *The American Journal of Sciences and Arts.* I copy it from Mr. Bingham's "*Sandwich Islands.*"

Month and date.	Fah. Thermometer.						Winds.				Weather.										
	Average at 5½ a.m.	Average at 1 p.m.	Average at 6½ p.m.	Maximum.	Minimum.	Mean.	N.E. Trades a.m.	N.E. Trades p.m.	Var. a.m.	Var. p.m.	Rain in inches.	Fair a.m.	Fair p.m.	Cloudy a.m.	Cloudy p.m.	Show. a.m.	Show. p.m.	Rain a.m.	Rain p.m.	R'n at night.	
April, 1845.	66·0	75·0	70·0	82·0	62·0	70·2	21	20	10	11	14·0	9	4	4	11	10	9	7	6	17	
May, "	69·6	80·3	74·0	85·0	66·0	74·6	27	27	4	4	6·0	11	10	5	4	14	15	1	2	10	
June, "	71·6	82·6	75·0	90·0	66·0	76·4	25	27	5	3	4·0	16	17	2	1	10	10	3	3	12	
July, "	72·0	82·0	75·8	86·0	69·0	76·3	30	30	1	1	8·0	9	7	7	6	9	16	6	2	21	
August, "	71·6	83·2	76·9	89·0	67·0	77·2	29	29	2	2	5·5	9	15	2	5	7	8	3	3	12	
Sept., "	71·4	82·6	76·6	87·0	68·0	76·8	28	27	2	3	5·4	16	12	3	4	11	13	0	1	14	
October, "	69·6	78·5	73·8	84·0	64·0	74·0	18	16	13	15	18·4	11	10	5	3	9	10	6	8	22	
Nov., "	66·7	78·3	72·0	82·0	57·0	72·3	4	4	26	26	5·2	22	19	2	4	4	4	2	3	10	
Dec., "	65·2	75·0	69·0	82·0	57·0	69·7	7	7	24	24	5·0	18	10	6	5	6	6	1	1	11	
January, 1846.	62·0	71·8	67·9	79·0	54·0	67·2	3	3	28	28	4·6	18	7	8	8	1	4	4	3	10	
Feb., "	63·3	73·5	68·4	78·0	57·0	68·4	10	10	18	18	3·0	16	14	10	10	0	1	2	3	10	
March, "	63·4	75·8	69·5	80·0	56·0	69·5	18	18	13	13	6·6	15	14	16	8	4	4	6	5	16	

"At *Koloa*, on Kauai, the thermometer varies from 50° to 90°." (Jarvis' *History of Sandwich Islands.*)

The following most valuable and complete "General Table of Meteorological Observations at *Honolulu*, from January 1st, 1837, to January 1st, 1839," was prepared for the *Hawaiian Spectator* by T. Chas. Byde Rooke, F. R. C. S. Honolulu is on the south side of Oahu, and is by far the most important town of the Islands.

1837.	Barometer.			Fah. Therm.			Winds.			Weather.			Rain during the month in inches.
	Aver. height at 7 a.m.	Aver. height at 2 p.m.	Aver. height at 10 p.m.	Average at 7 a.m.	Average at 2 p.m.	Average at 10 p.m.	Trades days.	Southerly days.	Variable days.	Fine days.	Rainy days.	Var. days.	
January	29·970	30·006	30·043	67·9	76·6	71·3	10	14	7	24	3	4	2·0
February ...	30·076	30·030	30·060	71·1	71·7	72·7	22	4	2	19	3	6	1·7
March.....	30·098	30·057	30·087	69·6	76·6	72·4	19	6	6	22	2	7	2·5
April.....	30·128	30·092	30·117	72·1	78·4	73·7	30	0	0	25	4	1	1·2
May.....	30·109	30·085	30·097	73·4	80·2	75·0	30	1	0	29	1	1	0·9
June	30·093	30·061	30·085	76·1	81·9	77·5	29	0	1	21	3	6	1·4
July	30·115	30·095	30·107	76·4	81·5	77·3	28	1	2	21	7	3	2·8
August.....	30·077	30·066	30·087	76·9	82·8	78·1	30	0	1	22	3	6	2·0
September..	30·095	30·060	30·097	76·5	83·0	77·0	29	1	0	29	1	0	0·7
October	30·116	30·076	30·120	74·8	80·6	76·0	26	4	1	28	1	2	0·4
November ..	30·070	30·029	30·071	72·7	77·9	73·8	19	7	4	18	8	4	4·5
December ..	30·124	30·072	30·115	69·9	76·5	71·1	23	6	2	27	1	3	1·0
Average...	30·128	30·060	30·090	73·1	79·5	74·8	295	44	26	285	37	43	21·1

1838.	Barometer.			Fah. Therm.			Winds.			Weather.			Rain during the month in inches.
	Aver. height at 7 a. m.	Aver. height at 2 p. m.	Aver. height at 10 p. m.	Aver. at 7 a. m.	Aver. at 2 p. m.	Aver. at 10 p. m.	Trades days.	South. days.	Var'ble days	Fine days.	Rainy days.	Var'ble days	
January...	30·060	30·028	30·054	69·3	75·6	71·5	21	5	5	25	3	3	0·8
February..	30·016	29·970	30·005	71·2	75·3	72·1	20	3	5	18	6	4	8·5
March.	30·105	30·064	30·095	72·0	75·1	72·5	22	3	6	21	4	6	2·1
April.....	30·127	30·095	30·140	71·5	76·7	72·8	29	1	0	27	1	2	1·0
May.....	30·149	30·139	30·162	73·2	80·3	75·5	25	5	1	28	1	2	0·5
June	30·085	30·040	30·090	75·5	81·7	77·1	20	7	3	17	3	10	2·5
July.....	30·091	30·068	30·092	76·4	82·5	77·9	26	3	2	24	3	4	1·5
August....	30·078	30·052	30·078	77·2	83·2	78·4	30	1	0	28	1	2	1·2
September.	30·073	30·035	30·068	76·7	82·6	78·4	27	2	1	25	3	2	2·5
October....	30·040	30·021	30·042	75·0	80·1	76·9	16	7	8	20	5	6	12·0
November.	30·041	30·008	30·044	72·3	76·6	73·7	18	9	3	19	5	6	6.7
December..	29·978	29·876	29·993	71·5	76·3	73·3	4	25	2	23	6	2	7.5
Aver. of year	30·087	30·033	30·072	73·5	78·8	75·1	258	71	36	275	41	49	46·8

Of *Waialua*, on the western side of Oahu, Com. Wilkes affirms, on the authority of residents:—"The thermometer ranges from 75° to 80°, and has not fallen below 55° for several years, and rarely below 60°."

The temperature of *Lahaina*, on the south of Maui, as given by Dr. Chapin (*Amer. Jour. of Sci. and Arts*), corresponds with that of the above-mentioned places. He was guided by Rev. Mr. Richards' tables, kept for ten years, which exhibit "the highest thermometric elevation at 86°, the lowest at 54°, the extreme difference 32°, and no day during the whole period exhibits a difference of more than 19°. June has the highest range, January the lowest." "Lahaina is one of the most arid districts of the group, and has seldom rain sufficient to moisten the soil through its whole depth, except in the winter or rainy season. For months in succession the sun is scarcely obscured by clouds, and its exemption from the direct influence of the trades might lead us to expect several degrees of the thermometer above the more wet and windy portions; but so far as my observation has extended, and I have visited every portion of the island, it is not the case."

Of *Kailua*, on the west or lee side of Hawaii, Capt. Wilkes states:—"During the winter the thermometer ranges, at sunrise, from 64° to 78°; at mid-day, from 76° to 85°; at sunset, 70° to 80°. In summer the range is 68° to 80° at sunrise; at mid-day, 78° to 86°; and at sunset, 72° to 81°."

Of *Kaawaloa*, on the lee coast of Hawaii, Capt. Wilkes states:—"The thermometer ranges between 62° and 76° in the winter, and from 70° to 86° in the summer, and seldom above 86° or below 62°."

"The average temperature of *Waimea*, Hawaii, situated in the interior at an elevation of about 4,000 feet, is nearly 64° Fahrenheit, 48° being the lowest extreme." (Jarvis' *History of the Sandwich Islands.*)

It is to be regretted we have no greater number of statistics regarding the falls of *Rain*, but we shall probably state the truth with sufficient accuracy, if we allow the average annual amount on the windward shores to be seventy-five inches, and on the leeward, twenty-five.

The climate of the Hawaiian Islands is one of the most equable possible. A few comparative statements, principally deduced from the preceding tables and statements, will be of interest.

The *daily range* of thermometer is:—at Penzance, $6\frac{1}{2}$°; at Nice, $8\frac{1}{2}$°; at Rome, 11°; and at Honolulu, 12°.

The *mean difference of successive months* is:—at St. Augustine (Florida), 3° 68′; at Penzance, 3° 05′; at Key West, 2° 44′; at Madeira, 2° 41′; and at Honolulu, in 1837, 1.59°, in 1838, 1.77°; and at Waioli in 1845–6, 1.77°.

The *mean annual range* (I quote from Dr. Lee, in Dr. Copland's *Dictionary of Prac. Med.*) is:—at St. Augustine, 53°; at Penzance, 49°; at Key West, 37°; and at Madeira, 23°. At Honolulu, the extremes, during twelve years, were 90° and 53°, the range being 37°; during 1837 the maximum was 85°, the minimum was 61°, the range 24°; and during 1839 the maximum was 86°, the minimum 62°, the range 24°. At Lahaina, during a period of ten successive years, the extreme points of thermometric elevation and depression were 86° and 54°, making a range of only 32°. At Waioli, in 1845–6, the maximum was 90°, the minimum 54°, the range 36°. It is palpable that these statements regarding Lahaina, Honolulu, and Waioli, are by no means as comparatively favorable as they might be, for they either refer to individu-

al years, or embrace periods of ten and twelve years, and give the absolute extremes, rather than the mean annual ranges, as given for St. Augustine, Penzance, Key West, and Madeira. It is my impression that the mean annual range of many Sandwich Islands localities will yet be proved less than even that of Madeira.

The *mean annual temperature* of the West Indies is 79° to 81°, on the leeward side of the Hawaiian Islands about 75°, and on the windward about 72°.

On our present subject Dr. Chapin remarks:—"The climate will be found extremely pleasant and equable, and not surpassed in salubrity by any in the world. Indeed, what place can be found more uniform—the thermometer, during a space of ten years, not having varied more than thirty-two degrees; and where no day during the same period had a variation of more than nineteen degrees; where the same clothing is found comfortable the whole year, and where no other regulator of the temperature is needed than simply to open or close a window."

Dr. Judd, in noticing the amusing observations on the weather one will hear in the course of a half-hour's walk, says:—"One will tell you the weather is very pleasant; another, who, perhaps, has taken a little more exercise than usual, will say it is hot; another, at ease in the shade, will remark it is cool; while another will ascribe to the weather any other quality which his own dullness or buoyancy of spirits may suggest. The fact, most probably, will be, that there is nothing unusual or noticeable in the weather, and it would not be a subject of remark, but for our early habits in a land of sudden and severe changes. The natives seldom speak of the weather; indeed, there is no word in their language to express that general idea, and it is only the occurrence of a storm or something unusual, that attracts sufficient attention to make it a subject of remark."

The Hawaiian Islands have been spoken of as well suited to persons of phthisical tendencies; and, in many respects, they are admirably adapted. Such uniformity of mild tem-

perature is only equaled by few far-famed localities. The period will, probably, soon arrive when consumptives will resort there for health, as they now visit the West Indies or the Canaries. Not every season is equally favorable, however. The dry or trade wind season, from April to September inclusive, will, probably, be found the best, as may be inferred from the following table deduced from those already given:—

	April to September.				October to March.			
	Max. Therm.	Min. Therm.	Range Therm.	Inches Rain.	Max. Therm.	Min. Therm.	Range Therm.	Inches Rain.
Honolulu.....1837	85°	71°	14°	12·6	83°	61°	22°	9·5
" 1838	86°	68°	18°	11·3	82°	62°	20°	35·5
Waioli.....1845-6	90°	62°	28°	42·9	84°	56°	28°	42·9

Nor are all parts of the Islands equally favorable. Selections must be made, and they can be, though neither Honolulu nor Lahaina, the two most populous and important seaports, is to be most highly recommended.

As the Islands are populated by a race of higher civilization, and as the luxuries of life are multiplied and diffused so that the best adapted localities shall furnish the essentials for an invalid life, and as the facilities for communication are increased and multiplied, the reputation of their most romantic and varied scenery, and their almost unparalleled salubrity, will rapidly make them a noted resort for the united objects of pleasure and health.

THE DISEASES OF THE HAWAIIAN ISLANDS.

With such a climate as just described, it will be asked, what of aggravated disease is to be expected. I reply, that the greatest number and worst aggravations of diseases among the native Hawaiians are due to their miserable modes of living. Did they live physiologically, they themselves would secure the same immunity from acute and destructive diseases that the natives of foreign lands among them enjoy, and might multiply, in contradiction of the nonsensical gibberish which speaks of "the *inevitable fate* of the Indian race

before the foot of the Anglo-Saxon." Though in very many particulars improved, they still, as a nation, require medical reform. The effort would be an interesting one, to attempt, more directly and systematically than any of their benefactors have yet been able to do, the medical education of the islanders. This must, perhaps, be effected mainly through medical men of their own nation, educated by foreign physicians. And as such men, if of proper moral character, will be of eminent service in the civilization of other Pacific Ocean islanders, we may hope the attempt will soon be systematically commenced.

Their diseases are principally dependent on sudden variations of temperature (this, too, in a climate emphatically uniform)—on irregularity in diet,—and (though it involves a second paradox) on defective cleanliness, though habitually a nation of bathers—"causes which, it is believed, owing to general improvements, are annually less active in their nature, and in time will mostly be checked." (Jarvis.) The Hon. Mr. Wyllie, in his *Notes on the Hawaiian Islands*, remarks:—"Dr. Chapin considers that most of the diseases, to which the natives are subject, arise from cold, bad houses, and bad clothing. The means of preventing the operation of these causes are to be sought for only in the diffusion of wealth, created by general industry, for which there are superabundant elements."

We will first treat of Syphilis, pronounced by some, as by Dr. Chapin, "the monster disease." We here enter debated ground; but reliance on the testimony of judicious medical men, whose long residence there gives them authority to speak, will extricate us.

The stereotyped history of Syphilis among them runs thus:—The disease was unknown until the discovery of the islands by Capt. Cook. From his crew it was first communicated to the females of Waimea on Kauai and of Kealakeakua on Hawaii, and from thence it radiated through the unimpeded channels of licentiousness over the whole group, among all ranks. From 1778 till now the disease has done

its work of mutilation and death, has manifested itself in all its hideous deformities, and has so destroyed the Hawaiian constitution that the nation is spoken of as physically rotten, and that the hopes of continued national existence are destroyed. I quote the *Narrative of the U. S. Ex. Expedition:* —"Mr. Whitney imputes this rapid decrease to foreign vicious habits, and both foreign and native authorities attribute the introduction of the venereal to the visit of Capt. Cook. This infection, brought to these Islands by the first voyagers, may now be said to pervade the whole population, and has reduced the natives to a morbid, sickly state; many of the women are incapable of child-bearing, and of the children which are born only a few live to maturity." Dr. Chapin, in *The American Journal of Medical Sciences*, says:— "With such an introduction, the venereal disease has for the past fifty-seven years continued to spread and increase; perpetuated and extended, too, by almost every vessel which touches at the Islands, till words fail to express the wretchedness and woe which have been the result. Foul ulcers, of many years' standing, both indolent and phagedenic, everywhere abound, and visages horridly deformed, eyes rendered blind, noses entirely destroyed, mouths monstrously drawn aside from their natural position, ulcerating palates, and almost useless arms and legs, mark most clearly the state and progress of the disease among that injured and helpless people." Rev. Artemas Bishop remarks:—"Their previous looseness of morals formed a ready conductor for the disease which was introduced by the first ship which touched here, and from the account given by the natives themselves, the consequences were incalculably more dreadful than had been feared by Capt. Cook and his associates. The deadly virus had a wide and rapid circulation throughout the blood, the bones, and sinews of the nation, and left in its course a train of wretchedness and misery which the very pen blushes to record. In the lapse of a few years, a dreadful mortality, heightened, if not induced, by their unholy intercourse, swept away one-half the population, leaving the dead un-

buried for want of those able to perform the rites of sepulture." The following, by David Malo, a native Hawaiian writer, is worthy of quotation, for its just recognition of God's moral discipline exerting itself through the ordinary and natural laws of disease:—"This disease has become prevalent among the people, and even children, and all the people of the Islands are miserably diseased; and it is clear that, from the arrival of Capt. Cook to the present day, the people have been dying with the venereal disorder. Foreigners (David Malo, would, of course, make many exceptions) have lent their whole influence to make the Hawaiian Islands one great brothel. For this cause God is angry, and he is diminishing the people, and they are nigh unto desolation."

Though many of the above statements are incontrovertibly true, they, probably, convey an exaggerated view of a great and real evil. Knowing that the disease had been introduced and had been disastrous, many an ulcerous leg and ophthalmic eye, and nearly the whole body of deformities, congenital and acquired, together with all the barrenness of the females, were imputed to the monster disease. Still we shall not deny it the character of an important individual among their maladies, and one that, with several other grave causes which have each reacted on the other for evil, has materially assisted on the nation's calamity.

Another series of statements must also be subjected to doubt,—namely, that which, without broaching the involved question as to the previous existence of a venereal disease, would make that disease introduced by Capt. Cook different in kind from any thing which could have preceded, and very different in degree, if not in kind, from any thing now existing. This opinion need not, perhaps, be more particularly discussed in this paragraph, as our remarks on the third series of statements will further elucidate this.

The philosophical query, as to the true period of the inception of the disease among the Hawaiians, involves a discussion of the long-mooted question of its origin among Euro-

peans—a debate we shall sedulously avoid. Whatever may be the theory of its existence in Europe or at the Sandwich Islands, anteriorly to the respectively accredited periods of 1493 and 1776, the fact seems undeniable, that at about those dates a disease, supposed to have been before unknown, spread with marvelous rapidity, attacking primarily the genitals, but introducing as accompaniments or sequelæ "excruciating nocturnal pains, corroding ulcers over the whole body, affections of the throat and nose, and, very frequently, death." (J. Bacot.) Whatever we may deem probable, or may demonstrate as certain, as to the anterior existence of genital diseases, it must be admitted, that, as in Europe, so at the Hawaiian Islands, there came a time when particular morbid developments on and near the organs of generation received unusual attention and were attended by constitutional symptoms unnoticed before, and by remote local diseases of unprecedented phagedenic character—that this new disease (as it was supposed to be) was contagious in a wonderful degree, and spread through the nation, and was a source of general dread, often proving miserably fatal. As proofs, we need but refer to such statements as just quoted from various residents, which are undeniable and decisive on these points, whatever we may judge as to their over-statement regarding the national degeneracy being mainly attributable to this monster.

With regard to the present condition of the disease, it seems also undeniable that as in Europe, so at the Sandwich Islands, Syphilis has ceased to be a dread, and though there be many syphilised constitutions, the immediate developments of the disease are not usually found save in the channels of systematic prostitution. And, in confirmation, I will quote, first, a report made in 1839, before the annual meeting of the Protestant Mission of the Islands, by a committee consisting of the physicians of the mission, who, at that time, constituted by far the majority of the resident physicians. I transcribe a considerable portion of the report for its intrinsic importance, though the last sentence quoted is that bearing directly on the subject at issue.

"1. That they find the climate of the Islands highly favorable to the development and perfection of the animal economy, the mean temperature being within a few degrees of that point which physiologists consider most favorable to human life, and free from those sudden and great changes to which most other climates are subject.

"2. That notwithstanding the favorableness of the climate, they find an unusual amount of disease among the natives, especially of the sub-acute character, which, though for the most part not very painful, tends always to undermine the constitution and pave the way to a premature grave.

"3. That the immediate causes of most of their maladies are plainly ascribable to their frequent violation of the first principles of correct living; to their low estimate of life, and recklessness of themselves; to their wretched habitations, which furnish little comfort or protection; to their practice of lying on the damp ground; to want of protection by clothing, in exhausted conditions of the system, against vicissitudes of the weather; and to their poverty, which keeps them strangers to necessaries and comforts.

"4. That we have witnessed no fatal epidemics since we arrived at the Islands, and that, of those diseases depending upon a specific contagion, almost no lives are now lost. * * The venereal disease, which, probably, did once make considerable havoc among this people, seems now so far to have worn itself out, that we seldom see it as recently contracted, except about the harbors, and there not extensively, and very few deaths from it have occurred in our practice. Neither do we perceive that this disease materially retards the increase of population on these Islands."

Dr. Lafon, several years a resident at those Islands, affirms, in reference to abortions, that they are no more frequent than elsewhere, and that they very rarely have connection with Syphilis; and as to the effects of the disease on the progeny, it also is infrequent. He unhesitatingly asserts that mistakes are made in attributing to Syphilis the great body of ulcers and tumors and other occasional results of the disease.

Mr. Jarvis, in his History, says:—"The venereal disease has almost exhausted itself, and it is rarely to be met with, except about the sea-ports, where the virus is kept active by augmentation from foreign countries. Even in these places it does not prevail either extensively or fatally, nor can it be said materially to retard the increase of population at the present time."

These authorities, who bring with them every element of reliability, agree in the assertion that primary Syphilis is comparatively rare. Who will, then, question the direct and inevitable inference that secondary Syphilis must be at least as infrequent. And if this be established, it will be seen, as before intimated, that that class or form of statements which pronounces the Hawaiian constitution syphilitically rotten, and which solves the problem regarding depopulation by the asserted prevalence of the venereal taint, must be in some degree erroneous. With the above facts before us, the national constitution cannot be affirmed to be syphilitically destroyed, unless the theory be developed that individuals and a people may be so tainted by this disease, through their ancestors, as to lose their powers of procreation. Such a theory will, so far as I am aware, be a new one to the medical world. Without doubt, syphilitic children of syphilitic parents attain to less vigor and are more liable to disease, and, so far as these causes are operative, may be possessed of less virility; but have we evidence of a specific effect on the procreative faculties of the descendants? Is there naught that destroys virility but Syphilis? And if such a fact or law as the above theory be yet proved, we must neither then nor now ignore the much more palpable and better known causes to which we shall presently allude.

It will be noticed that our authorities speak of the disease having "worn itself out," and of its having "exhausted itself." These expressions cannot have been intended by their authors to be taken in a rigid medical construction, as though it were proved that this virus did, by any law in any community, lose its inherent virulence. It will be suffi-

cient to say of the period of aggravated syphilitic affections at the Hawaiian Islands, as of that in Europe, that by a better acquaintance with the medication of the disease, and with the laws of its propagation, and also by the consequent removal of the veil of mystery, the era of dread and devastation was passed. It may also be suggested that Syphilis, like other diseases, may have its periods of aggravation from unknown epidemic causes, and that the syphilitic periods of Europe and the Hawaiian Islands may have been complicated with such causes. It must also be borne in mind that the morals of the people have since that time been improved —a cause which would alone tend to lessen the evil. It must also be noticed that at the Sandwich Islands, during the period in question, there existed certain political and civil conditions which served as great aggravations not only to the syphilitic but to other affections, and that these conditions are not now as disastrous as then. We pass on to a more particular consideration of these conditions.

The question now presses itself as to those causes of depopulation, to which allusion has been made, on the supposition that they were of themselves sufficient without an overpowering and still active syphilis. I answer it by quotations of some length from Mr. Jarvis' *History*, and will leave it for others to judge whether they are not conditions sufficiently disastrous not only to directly diminish the number, but even to lessen the fecundity of the nation, especially when we superadd the readily acknowledged disaster of Syphilis in its usual and well known degrees.

"Since the time of Cook a rapid decrease has occurred. Neither is this melancholy result of difficult solution. The population of the Islands probably never amounted to what, with the aids of civilization, they could be made capable of supporting. During their heathen state, though divided into many hostile tribes, perpetually engaged in warfare, their battles, from the imperfection of their weapons, were comparatively bloodless. That very condition served to develop enterprise and a national spirit, though accompanied

with beastly excesses, and thus a spirit favorable to physical growth was stimulated. The boundless hospitality which every chief was obliged by the spirit of his race to exercise, and which prevailed even among the canaille, always found food and shelter for the oppressed. A man dissatisfied with one master had but to flee to another, and he was sheltered and welcomed. Taxes were heavy and much labor required, but as it was generally for the support of the whole, an interested motive existed. The same work which would destroy the energies of a man who was to receive no reward for his toil, would produce health and cheerfulness in one who had an interest in the result. Every individual had that to some extent in the wealth and success of his chief; hence a patriarchal feeling was developed, which, with long used and uncontested power, will sufficiently account for the deep reverence, fear, and canine-like attachment, with which the common people regarded their superiors. Exceptions to this no doubt prevailed, and much misery was the consequence; but as a general principle it was correct, and stands in strong contrast with the relative condition of the two classes, after a thirst for foreign wealth was developed by intercourse with whites. A grasping, avaricious disposition succeeded; ends were to be attained regardless of the means used. The little natural human feeling the chiefs possessed, was extinguished by an all-powerful passion for gain. Interested foreigners stimulated this desire; cargoes of rich goods were brought, luxuries displayed, and no means left untried to excite their cupidity. The unfortunate result is well known. The whole physical resources of the kingdom were over-wrought, and women and children were taxed beyond their powers. Sandal wood was to be collected; mountains and valleys almost inaccessible were to be penetrated, and heavy loads borne on bleeding shoulders to the sea-side. Like the children of Israel, their toil was doubled and their sufferings found no consideration in the eyes of their cruel task-masters. Cultivation was neglected, and famine ensued. Multitudes perished under their burdens;

others left their homes and wandered like wild beasts in the depths of forests, where they either slowly sunk under the horrors of want and starvation, or sustained a miserable existence on roots and wild fruits. Blind to the consequences, the chiefs continued the same policy. Debts were contracted which must be discharged, and increased taxes were imposed. No property was safe. A native could neither hold nor acquire—all was his chief's—even his children became a source of additional suffering, for every head was taxed!—infanticide greatly increased;—parents gave away their offspring, and the natural feelings of the nation were crushed beneath this iron despotism. Life became a wearisome burthen; numbers of the most active sought safety and employment abroad. The first effects of Christianity added to this already intolerable load. So long had this system been pursued, that no other plan of public works, than the compulsory labor of the whole population, seemed feasible. Regardless of the instruction and advice of their religious teachers, they added to their labors the toil of building churches, school-houses, and other works, necessary in themselves, but erected by unholy means. This system prevailed in later days, with mitigations, however, until 1838, when it began to give way before the combined influences of the mission and foreign residents, and the more enlightened efforts of the native population.

"Before Cook's visit, diseases were few and simple. Subsequently they increased in number and virulence, while the remedies and knowledge necessary for arresting them remained unknown; the fatality attending novel illness, the progress of which they knew not how to arrest, produced a deep and often fatal spirit of despondency.

"Alcohol and licentiousness have usually been considered the most aggravated causes of depopulation; but their influence has been exaggerated. The habits of the natives in both respects are now better than they were before their discovery, when drunkenness, produced by the use of *awa*, and promiscuous intercourse and incest were almost parts of their natures.

"A powerful agent, though one the effects of which have been greatly overlooked, is the partial adoption of foreign clothing. This may seem paradoxical; but unfortunately it is too true. * * Many would wear their clothes but part of the time, and then, finding them inconvenient from extra heat or cold, throw them aside altogether. The utmost irregularity prevailed, not only from poverty, but from carelessness and from ignorance of the results. * * Their constitutions, already enfeebled, from causes before mentioned, could ill bear such treatment. Colds and fevers greatly increased, and of a more fatal tendency. Trivial predispositions to disease were aggravated, and death was the frequent result of attacks which the slightest prudence could have obviated.

"Much else might be named, which would cause the philanthropist less to wonder why they decrease, than that it should have been so slight in comparison to the many causes so actively at work to create it. * * It must be remembered that these causes were all additional to those which existed prior to their discovery, and which were of themselves sufficiently active to prevent any rapid increase."

The Hon. R. C. Wyllie, speaking of the supposed depopulation by Syphilis, says:—"There no doubt has been, and, I fear, still to a great extent exists a cause, in the laxity of native morals, why that disease should be propagated with unusual universality, and that very cause will add to the effect of disease in preventing offspring; but the outward appearance of fat and health, more general here amongst the natives than amongst the Indian tribes of Mexico, or any country in South America, is opposed to the belief of such an inward rottenness as could render the race unprolific, without the influence of other causes." The opinion of a gentleman of such eminent intelligence and general and medical information weighs much.

It is but proper that, before leaving this topic, I refer more particularly to Dr. Chapin's articles, especially to that in *The Boston Medical and Surgical Journal*, Vol. 42, No. 5,

where a greater potency is ascribed to the venereal than I have admitted. He maintains the syphilitic origin of a large number of affections, because "mercurial remedies" alone effectually reached them; and upon this the query rises, whether this be the best or proper test for the diagnosis of venereal. But though his diagnosis be both admitted and proved, it still remains to be established that the lack of fecundity among the Hawaiians, as compared with "the lowest class of Irish, and with the blacks of our own southern States (neither of whom are more moral, or regular in their lives, nor more temperate, nor better fed)," justifies us in counting Syphilis "the most prominent cause of disease at the Sandwich Islands." I trust the above discussion has gathered light on the subject.

Having thus dismissed the consideration of Syphilis, I shall not find a fitter place than the present to express a thought concerning the prophecy of the extinction of the Hawaiian race, founded on the ancient canon that all so-called Indian races must vanish before the Anglo-Saxon. The canon is based on an unfair and unchristian induction, which involves the supposition that Anglo-Saxon intercourse must always be attended by those Anglo-Saxon immoralities which have been the real destroyers, and that it is impossible in any instance to correct the effects of such commerce. Whatever shall be the ultimate fate of this interesting race, the efforts of no philanthropists should be damped by unfounded predictions. There is yet hope for a small remnant of this and other races which Anglo-Saxon would-be-philosophers have destined to annihilation. I again quote from Mr. Jarvis, the able and impartial historian. "Their depopulation was more rapid, as far as can be ascertained, in the reigns of Kamehameha II., and his successor Liholiho, than at a more recent period. As Christianity and civilization have advanced, in just that proportion has this mortality ceased. Their effects are of too recent a nature to predict the final consequences, but it may be confidently expected, that as the fatal tendencies are counteracted, and others

allowed to operate, good results will ensue." "Evil as the most active principle may for a while riot uncontrolled, counteracting and more powerful tendencies are at work, which must eventually neutralize and overcome the former."

SCROFULA, considered apart from consumption, is reported as one of the frequent causes of disease among the native population. Dr. Judd says:—"Scrofula is very common in the various forms of goitre, ulcers, tabes, etc." Dr. Chapin says:—"Scrofula is not only frequent, but extremely malignant." Its cause is a little obscure, though it is, perhaps, readily enough given, if we use the general language which the custom of medical authorities on this subject allows us. We can, without difficulty, enumerate a number of debilitating causes; and if, with Dr. Alison, we limit "the causes of debility" to those "acting permanently, or habitually for a length of time, although not so powerfully as to produce sudden or violent effects," we may refer to their miserable houses, which are no sufficient protection from the weather, and in which they sit and sleep on the ground, with only a mat or two intervening. It is, indeed, their universal habit to make the ground their seat, which is everywhere more or less damp. Com. Wilkes, in speaking of their diseases, says:—"Many of them are brought on by living in their grass houses, which are by no means impervious to the weather. Another frequent cause is the partial decomposition of the grasses with which they are thatched on the roof and sides. In passing into them I invariably experienced a smell of mustiness, and a mouldy appearance is frequently seen about their mats and tapas." Says Mr. Jarvis:—"The houses of the common orders were mere hovels, made of straw, thatched upon a light wooden frame. They were low, small, and damp, and generally filthy within and without."

Their clothing, too, was partial and insufficient. The primitive Hawaiian costume, which is now rapidly giving place to more civilized habits of dress, was prepared of the bark of trees, and consisted of a sheet tied at two corners and thrown over the shoulders, with another narrow strip

wound round the loins and passing between the legs—or, for a female, a long piece about a yard in width, wound about the lower part of the body and descending to the knees, with, perhaps, a sort of shawl of the same.

Their food, too, was irregular, often "bad and deficient," and always principally "vegetable food." If these, as Mr. Philips contends, are productive of scrofula, we certainly can account for its existence among these islanders, for their food was almost exclusively vegetable, being preparations of the *arum esculentiam*. Fish was frequently an adjuvant, but it was rather an occasional than constant article of diet.

But the question arises, how, if, indeed, their modes of domiciliation and clothing and dieting be efficient producing causes, did they once, as a nation, thrive with comparatively little scrofula, though their houses and modes of dress and articles of food were essentially the same. The difficulty is, I think, satisfactorily met by the statements regarding the causes of depopulation already made. Their political conditions for long years rendered their preparations of food less ample and timely, their houses even less comfortable and habitable, and their clothing less complete and protecting.

Whether marriages between different races tend, as is generally supposed, to produce the scrofulous diathesis, the fact is interesting that, at the Hawaiian Islands, the children of alliances between the natives and Chinese, or negroes, or any of the Enropean nations, are far more healthy, and are better physically developed than those of pure Hawaiian blood. This may, however, only be because the indigenous race is so far exhausted that foreign blood is, with all its disadvantages, better than their own; or, more probably, because such descent generally receives more appropriate and efficient parental care.

Malarious Diseases, of all types, are rare, if not unknown—either because malaria is not there present, or because, if generated, it is so quickly dispersed.

How simple and beautifully circular the usual process of reasoning on this subject! Wherever malarious diseases

prevail, there certainly malaria is present, and if, in investigating the causes of disease, we inquire for malaria, its absence is conclusively shown by the absence of recurring fevers, even though, as at the Sandwich Islands, sheets of stagnant water expose their surfaces to the constant action of a tropic sun, and though the inhabitants build their houses on embankments in the midst of the exhalations (either malarious, or the opposite), which must constantly rise.

Their "taro patches" are artificial ponds of water in which the taro is planted. These, in advantageous localities, are crowded very closely together, and present very considerable areas of water, and in among these ponds the natives very frequently live, enjoying as perfect health as elsewhere.

This might be urged as a proof of the fallacy of the malarious theory of periodic fevers, yet without much force, for even if it be proved that malaria is here generated, the fact of its harmlessness is readily explained by reference to the influence of the winds, which are felt more or less constantly and directly on all parts of the groups. On this subject Dr. Chapin makes an important remark:—"It might be an interesting subject of inquiry, which I have not seen discussed, why the islands generally, throughout the world, if we except those spots covered by cities, made pestilential by crowded populations, are so free from those poisonous exhalations which abound on the continents, so generally between the tropics, and, during the warm weather, over such an extent of the temperate zones, especially along the rivers." "On the continents are large marshes, putrid with vegetable and animal decomposition, draining into streams nearly stagnant from the sluggishness of their courses, whilst on the islands, swamps are less abundant, and the streams are short, fresh, and rapid, and whatever malaria is generated is quickly diluted, and borne off by the passing sea breezes, and thus rendered innocuous."

But we may even question whether the same bodies of water in the same soil, in regions remote from the trades,

would be prolific of malaria; for, first, the ponds are every few days receiving fresh supplies of water; and, secondly, the soil is not that which, from its extreme richness in vegetable matters, would be supposed able to part with much that is noxious; and, thirdly, the ponds are kept almost constantly full, so that parts once moistened are kept submerged. Besides these taro patches, the few possible sources of malaria are utterly insignificant.

"With so entire an exemption from the existence of miasmata, there is also an entire exemption from those affections induced by it. Malignant bilious fevers do not occur, and * * * derangements of the liver and biliary organs do not prevail, neither are the stomach and intestinal canal, and other organs of the abdominal viscera subject to the numerous and complicated affections so common in every miasmatic region." (Dr. Chapin.)

Yet in 1803 or 1804, a pestilence raged which has by some been supposed to have been yellow fever, and by others, Asiatic cholera. "In the year 1804, when the late King Kamehameha was on his way from Hawaii to invade Kauai, he halted with an army of eight thousand men at Oahu. The yellow fever broke out among the troops, and in the course of a few days swept away more than two-thirds of them." (Journal of Tyerman and Bennet, vol. 2., p. 48.) "The great pestilence of 1803 destroyed multitudes, and has been supposed to have partaken of the character of the Asiatic cholera." (Jarvis' *History*.) Of this disease we can only say, that it probably was not either yellow fever or cholera.

Other forms of *Fevers*, not exanthematous, though "the most frequent and numerous class of diseases among the native population, are by no means the most malignant and fatal. * * * The excitable state of the system which predisposes strongly to febrile attacks, is not common at these Islands. The continued and oppressive heat is there not sufficient of itself to produce it, and the universal custom among the people, to repose during the hottest part of the

day, aids in counteracting other unfavorable influences. The simplicity, too, of their diet and habits of life is not calculated to promote a state of excitability." (Dr. Chapin.) The fevers are apt, I should judge, sometimes to take on the symptoms generally termed typhoid, though malignant typhus is rarely seen.

Of the *Exanthematous Fevers* little can be said, save that they have at occasional intervals been introduced. The natives seem never to have had them previous to the discovery of the Islands, and their insular position protected them for some time subsequently.

In 1848, *the Measles* in some unknown way made its advent among the unfortunate islanders. They had never before seen the disease—the symptoms were to them new and singular. It was difficult to impart to the masses the proper mode of treatment, and they, in their ignorance, during its eruptive period, under the disagreeable sensations of heat, frequently made applications of or immersed themselves in cold water, making it tenfold more than usually fatal.

Small-pox has never spread among the people, and should it now arrive they are probably quite well prepared for it by vaccination.*

In 1839, *Mumps* were introduced (though I violate order

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* In May, 1853, the small-pox appeared for the *first time* on the Sandwich Islands, and it spread with fearful rapidity and unprecedented mortality, about 6,000 of the unfortunate victims of the disease, or *eight per cent. of the entire population*, having been swept off in the space of eight months.

The malady is believed to have originated on the Islands from fomites, that had been conveyed from San Francisco to Honolulu in a chest of cast-off clothing. As the disease extended in Honolulu and its vicinity, the natives became panic-stricken, and fled in wild confusion and alarm to remote districts of that Island (Oahu), and to the other Islands; thus unhappily conveying the pestilential infection throughout the entire group of Islands, and to almost every community. The disease was of the gravest type, and was manifestly rendered thus by a most marked variolous epidemic constitution.

I have deemed it important to add to this valuable essay of my friend, Dr. Gulick, the above brief notice of the most terrific and fatal epidemic of variola that has ever been recorded. ELISHA HARRIS.

in noticing it here), and "prevailed very generally, and in some cases terminated fatally through mismanagment."

Rheumatism is a frequent malady among the islanders, as a consequence of their irregular life and extreme imprudence in spending their nights on the ground, and of "their habits of continuing long in the water and exposing their bare bodies to strong currents of wind, when overcome with heat and covered with perspiration."

Dr. Chapin speaks of its "very frequent occurrence, notwithstanding the very prevalent belief that it is almost peculiarly a disease of cold and variable climates, and is rarely met with in warm and uniform climates." He remarks with great justness that—"The constitution becomes so impressible in warm climates, that very slight variations in the atmosphere are as severely felt as the greatest changes with us." And from this prevalence at the Sandwich Islands he infers its presence "at the adjacent islands, and at all places throughout the inter-tropic regions, where the same exciting causes exist." At these islands "the disease is usually mild in its attacks, soon passes off, even without the application of medicinal means, and is seldom followed by severe secondary effects."

Primary derangements of *the Nervous System* constitute but a very small part of their diseases. *Insanity*, as might be expected from their quiet, simple mode of life, is not frequent. Among the females, *Hysterical* tendencies are not marked. *Chorea* is occasionally met with. *Paralysis* is more frequent, and Dr. Lafon attributes it to their long-continued sitting and sleeping on the damp ground, by which, not only their fibrous, but their nervous tissues are affected.

Pulmonary Affections are frequent and important. In an address before the Royal Hawaiian Agricultural Society, the Hon. Luther Severance says:—"If every native would wear a woolen shirt, and sleep at night under a woolen blanket, I think there would be less of asthma and other affections of the lungs, induced as these diseases probably are by exposure to the strong winds, while the pores of the

skin are opened by profuse perspiration." (*Transactions of the R. H. A. Society*, Vol. 1, p. 2.)

Chronic Bronchitis is so frequent and universal among the Hawaiians as hardly to receive attention. The mucous surface of their lungs seems to be peculiarly susceptible to external influences. Dr. Lafon, speaking of the "day-break prayer-meetings," says that for the first twenty minutes it was generally scarcely possible to proceed with the religious exercises, from the incessant coughing of the congregation. It was as though each one was under the necessity of expectorating a certain amount of mucus before respiration could be comfortably carried on. The causes are evidently those already so frequently mentioned—their unhealthy exposures both within and without doors.

Catarrhs are of course to be expected, though mild, and generally the result of exposures and sudden alternations of temperature. Dr. Judd remarks:—"The *Influenza* (epidemic catarrh) usually prevails every spring." Dr. Chapin speaks of them as "usually mild in their character, ephemeral in their existence; they easily yield to immediate applications and rarely pass into the more inveterate and fatal stages of pulmonic disease." Some, however, of these epidemics are much more serious, and their effects remain long after their departure. About four years since (1846) an epidemic of this kind prevailed over the group and was in some cases fatal, from untoward complications and bad management. And again in 1848–9 another epidemic arrived as a successor upon the measles, and was more than usually fatal. It would be of some interest to ascertain whether these influenzas have any relation to the direction of the winds, or, as has been suggested, to volcanic exhalations. The remote position of the group is very favorable for the investigation of the causes of disease, especially of the mooted questions regarding the contagious and epidemic character of maladies.

Asthmas are enumerated by writers among the diseases of the Sandwich islanders; but the term is used so indefinitely that

little can be learned from the statement. Dr. Judd, speaking of the annoyance from dust, says:—"It is, no doubt, a very efficient cause of the frequent occurrence of asthma among the natives." Dr. Chapin mentions, as a cause of asthma, "a habit, among the chiefs and wealthier portion of the common people, of inordinate eating, amounting even to gluttony," when "their capacious stomachs are distended not less than four or five times a day with truly surprising quantities of fish and poi."

Pneumonia and *Pleurisy* are mentioned: they cannot, however, be called zymotic diseases—they are, rather, accidental.

Croup among the natives is usually fatal. Dr. Chapin mentions its having prevailed epidemically once during his residence there. "Hoapili-wahine, a chief woman of high rank, upwards of seventy years of age, died of this disease in January, 1842." (Jarvis.)

Whooping Cough has been once prevalent, but soon disappeared.

Phthisis Pulmonalis is a very rare disease at the Hawaiian Islands. Dr. Judd says:—"This comparative exemption of a population—which is allowed on all hands to be fast wasting away—from one of the most fatal diseases of the United States and England, affords evidence that the climate is unfavorable to it."

An investigation of the causes of their entire exemption from pulmonary tuberculosis is one of much interest, especially if that disease is to be considered as dependent upon the scrofulous diathesis. The uniformity of temperature is certainly favorable, but why are not the producers of the other varieties of scrofula productive also of this? Is it that, for the development of phthisical scrofulosis, a close impurity of air is generally essential, by its immediate interference with respiration, and so, as it were, by centering upon the lungs in a primary degree the development of the scrofulous diathesis; while, if the glandular system be most impeded in the performance of its functions, through and

upon it will the diathesis be principally exhibited in specific scrofula? If this be accepted, the out-door lives which the Sandwich islanders live may be supposed to preserve them from that imperfect respiration, and so, from consumption, notwithstanding the untoward effects of many of their other habits, while the glandular system succumbs before the ready waiting enemy, incapable of receiving such relief and palliation of evil from fresh air, and even from that very exposure being made still more liable.

Foreign residents are completely exempted from such tendencies. Several members of the mission have entered the field with pulmonary affections, who were regarded as doomed to certain and premature death if they remained in this country (the United States), who now enjoy good health, and are entirely free from any abiding symptoms of disordered lungs." (Dr. Chapin.)

The remarks previously made, regarding the adaptation of the Hawaiian climate to persons of phthisical tendencies, are applicable here. The entire absence of Phthisis among the foreign and native inhabitants, with the mentioned instances of cure effected by a residence there, confirm the anticipations we might found on the mild uniformity of the climate.

There is one disadvantage, however, mentioned by Com. Wilkes, namely, "the great difference in the degree of moisture which exists within a few miles." This must be acknowledged a drawback, and though localities may be fixed on, enjoying proper mediums of moisture and heat, it would be difficult to confine a patient closely to them. But let me suggest that the mere fact of considerable moisture is not conclusive against a place as a residence for consumptives, especially if it fall, as it does at these Islands, during the summer season, in brisk refreshing showers, followed by beautiful sunshine, and leaving all nature revived and invigorated.

I repeat, that the Sandwich Islands will, as facilities of travel increase, become one of the places of resort for

invalids, especially during the summer season; for the beauty, grandeur, variety and novelty of the scenery will alone be a potent attractive, and the journeyings to enjoy it be efficient remedial agents.

Derangements of the functions of *the alimentary canal* are numerous, and frequently fatal among the islanders. Their irregularities in diet, with their habitual violation of all prudential laws, are causes sufficiently comprehensive.

Diarrhœa and *Dysentery* are common. "Beside the usual exciting causes which prevail in most places, they have an additional fruitful source, in a blind and barbarous practice of using immoderately the most powerful and drastic cathartics. I have known a case in which the average operations of four cathartics, given to disperse dropsy, were twenty-one, the aggregate eighty-four; and another case in which a man, from a fear that he would be sick, took such an enormous dose of the calebash, as to produce a hemorrhagy, which proved fatal within a few hours." (Chapin.)

Hepatitis, with all the other affections of the liver, are seldom met. The climate seems to be proof against that monster of civilized life—"the liver complaint"!! This exemption extends to all who reside there. "The frequent occurrence in hot climates, is ascribed by Dr. Saunders and others to the prevalence of a peculiar miasm in those regions, and if this be true, hepatitis will not be expected to predominate at the Sandwich Islands, where there is no evidence of any miasm whatever. Indeed, hepatic disorders are not merely uncommon there, but they do not appear to be incident to those seas. The Pacific is thronged with American and English whaling vessels, which cruise from three to four years, and, as they change their ground to the north and south of the equator, with the change of the seasons they are continually exposed to the hottest latitudes, and are much of the time in the torrid zone. Of these a large number touch semi-annually at the Islands for supplies, and though my practice among the seamen has been extensive, I have been called to prescribe for only two or three

cases of inflammation of the liver, and in no instance have I met with the disease in its acute form. The heat to which the sailors are subjected, during calms at sea, is often intense; and if the existence of hepatic disorders is owing mainly to the close sympathy between the biliary and respiratory organs, the etiology proposed by Dr. Johnson, I certainly ought to have met oftener with it. * * Two or three gentlemen of the mission, who had chronic diseases of the liver when they went to the Islands, have not only spent several years without any exacerbation, but one of them is quite relieved from the complaint." (Chapin.)

"*Worms* in the intestinal canal are not, so far as my observation has extended, of usual occurrence. The children of the mission, who numbered more than sixty, were entirely exempt, and no case of the existence of worms among the native population came to my knowledge. One individual, a native of this country, who had been for several years a resident of the Islands, was affected with ascarides, and this was the only case I met with." (Dr. Chapin.)

Diseases of the Eye are frequent. Blindness is not uncommon. "Ophthalmia, of the purulent form, abounds in every portion of the group, and opaque corneas and thickened coats of the eyes are very numerous. The old and the young are alike affected with this disease; very small children are occasionally met with nearly blind with its effects. I at one time attributed its prevalence to the effects of the clouds of sand, often raised and blown about with great violence by the trade-winds; but finding it equally common in those districts where frequent rains prevent the dust from ever rising, there appeared to be no other cause so active as the trade-winds, which come mingled with salt spray." (Dr. Chapin.)

Cutaneous Diseases are said to be numerous, though the names of varieties are not mentioned, except those of "*scabies*," and a disease called "*poupou*," spoken of by Com. Wilkes. "Though the Sandwich islanders are remarkably fond of the water, and are fastidiously particular in their prac-

tices of washing and bathing, they are, nevertheless, extremely filthy and squalid in many of their habits of life. With their beasts and fowls in the same habitation, and not unfrequently on the same mats with themselves, their often-repeated ablutions will be regarded as timely. The kapa, or native cloth, used by the inhabitants, is worn without cleansing, till, having become foul with vermin and dirt, and too ragged to serve longer the purposes of covering or protection, it is lain aside. Hence diseases, induced or exacerbated by such causes, have at those Islands a fruitful soil, and flourish luxuriantly. The *itch* is extremely prevalent, and often assumes a virulence unseen in this country. The pustules sometimes, becoming confluent, are converted into large and troublesome ulcers." (Dr. Chapin.) These details regarding their clothing apply rather to the past than the present—yet they are, no doubt, still too true.

From the Hon. Mr. Wyllie's "notes" I quote the following:—"In a valuable manuscript paper of Dr. Rooke's, to which I have had access, he adds *Puerperal Fever* as very common and very fatal. Excepting that disease, apoplexy, croup, and dropsy, the others are stated to be generally mild, yielding easily to proper care and medical treatment."

The *Therapeutic Constitution* of the Hawaiians is not, so far as I can learn, peculiar, save that their systems seem not as susceptible as ours to influences of a morbific or remedial character. Their life seems not of so high a grade as ours. Their nervous systems are not as fully developed, and are with greater difficulty impressed by external influences. It it this fact which, I think, accounts for their being able to exist, undermined as their constitution has been, and adhering to modes of living which would prove rapidly fatal to the same number of the most robust of the Anglo-Saxon race; for it will be remembered, that their lives of exposure are very different from those exposures connected with the incessant activity and vigilance incident to journeys and heroic exploits, which may ever be encountered with impunity.

THE MATERIA MEDICA OF THE HAWAIIAN ISLANDS.

This portion of my essay is meagre. It is with difficulty I have collected that which I give. How desirable that men of medical intelligence should investigate and report on this and the several other points of interest connected with the climate and diseases of Polynesia.

I will first notice such of the Materia Medica and remedial practices, originally employed by native Hawaiians, as I am informed of, and will then enumerate those other indigenous Materia Medica, not, so far as I am aware, included in the native Hawaiian Dispensary; and will thirdly notice such medicinal vegetables as have been introduced since the discovery of the Islands, enumerating both the unofficinal and officinal.

And *first*—To pass unnoticed the Materia Medica of a savage people, simply because employed by savages, is unreasonable and impolitic; for, have not all medicines been first employed empirically—has not our science been built up from empiricism—and have not the great body of our vegetable Materia Medica been first used by ignorant and even savage empirics? Might it not be possible, by a complete canvassing, to learn something even from Hawaiian empiricism?

The *Arum esculentium* is a plant very nearly allied to the arum maculatum and arum tryphillium in all its external habits and properties, and probably, like them, possesses a "property of stimulating the secretions, particularly those of the skin and lungs." (U. S. Dispensatory.) It is the principal article of diet among the Hawaiians. The heat of the oven dispels its peculiar acrid principle and renders it a very nutritious and valuable article of diet, had in great esteem by foreigners, but especially by the natives. The acridity is probably reduced by cultivation, but a very considerable portion of it is still retained. Says Dr. Chapin: —"It is, when raw, very styptic and acrid, and the skin of the root is used by the natives in the cure of dysenteries and intestinal hæmorrhages."

The *Cucurbita lagenaria*, or gourd, is used as a purgative. It is, in its medical properties, allied to several of the cucurbitacæ, particularly to the cucumis colocynthis. "The pulp of the root is used," says Dr. Chapin, "and in large doses it is terribly drastic. The inordinate doses given by the natives sometimes produce dysentery, rapidly fatal." Dr. Judd relates the case of a woman purged to death with this article by a native physician for an imagined disease. "About four feet of the green running vine of the bitter calabash, or gourd, thirty-two of the hollow stems which support the leaves, and about one ounce of the dry pulp, next the shell, of the dried gourd were pounded together on a board and the juice mixed with about three pints of water." "It is used by them successfully in dropsies. I once knew a native, with abdominal dropsy, cured by one of his own physicians with this article, after he had been treated unsuccessfully by foreign skill." (Dr. Chapin.)

A variety of *Ipomea* is mentioned by Dr. Chapin. "The roots are used by the natives as an emetico-cathartic. I tried it somewhat, and found it had efficacy; but the doses requisite were so large and the trouble of preparing it such, I abandoned it." I am utterly unable to give the specific title. It is questionable whether its medical powers have been fully ascertained.

The *Aleurites triloba*, or candle-nut, is one of the articles of the Hawaiian Dispensary. "The kernels of these are stuck, one over another, like beads, upon a fibre of cocoa-nut leaf, a foot long, and, containing a considerable proportion of inflammable oil, they give sufficient light for ordinary purposes, the flame communicating downward till the last piece is consumed. Sometimes five or six such strings, two yards in length, are wrapped together in a leaf of banana, and carried before the king, as flambeaux, when he travels by night." (Tyerman and Bennet's Journal.) Dr. Chapin remarks:—"I know it to be used as a cathartic, but never experimented with it myself." An oil extracted from this nut forms an article of export for painting—may it not have available medicinal properties?

The *Piper methysticum*, called "*ava*" by the Hawaiians, is one of the most important of their indigenous Materia Medica. From it they prepared a narcotic drink, esteemed throughout Polynesia. The bark of its stem is possessed of the peculiar properties of the plant, but it is the root which was principally used by them. "They prepared it for use by mastication. A person chews it thoroughly, and ejects it with the accumulated saliva into a dish, in which state it is drunk by the patient. Most of their medicines they prepare in the same manner." In continuation, Dr. Chapin says to the author:—"I supposed it might be serviceable as an anodyne: I gave it repeatedly in powder. It did not seem to possess narcotic properties, and after a number of trials with it I gave it up. The natives, as they said, used it to cure cutaneous diseases, by producing desquamation of the cuticle. They give it daily in such quantities as at length to accomplish the object. I think the article deserves further trial." Mr. Bingham informs me that "the juice is highly valued, and was much used both as a luxury and as a medicine, as alcohol still is in wiser countries. A singular effect of taking a course of ava was the cracking and coming off of the cuticle over the whole body of the patient, with which, it was maintained, the system parted with maladies." Mr. Jarvis says:—"Its effects were very pernicious, covering the body with a white scurf, * * * inflaming the eyes and causing premature decrepitude. It was also taken as a medicine, and was supposed to be an effectual remedy for corpulence." Mr. Ellis speaks of the "burning effect and unpleasant taste of the ava." A few years since, a gentleman, long a resident of the Islands, proposed exporting it to the United States, and there manufacturing of it some nostrum—which might, no doubt, have become as popular as Townsend's Sarsaparilla! Its medicinal properties are, perhaps, allied to those of the *Piper augustifolium*, or Matico, of which the U. S. Dispensatory says:—"Its most useful internal application is, probably, as an alterative stimulant to the diseased mucous membranes."

The Dispensatory refers to an article by Mr. Morson, on the *Ava*, in *The Pharm. Journal and Transactions*, Vol. 3, p. 472, which I have not been able to obtain.

The Vapor of Hot Water was, it seems, employed by the Hawaiians, and though a practice not peculiarly their own, the mode of administration, as related by Dr. Chapin, may amuse and instruct. "Prolapsus uteri they relieved by steaming over heated stringent herbs. Febrile diseases, rheumatisms, and many others, were treated by steaming. The patient was wrapped in green leaves, freshly picked, and laid on a bed of heated stones. If he writhed under the intensity of the heat he was held still by attendants. If he died, the doctor and all ran away!" How striking the similitude between the Hawaiian and the American quack, both in the mode of practice and in manner of escape!

But their characteristic mode of alleviating pain is the *Lomilomi*—a systematic kneading, and pressing, and squeezing, and rubbing, employed in all cases of fatigue or pain, where not intolerable. To appreciate fully the virtues of the practice, one must himself be operated on by a practical Hawaiian. It is, in many cases, most admirable. "People were especially trained to lomilomi; a kind of luxurious kneading or shampooing, and stretching, and cracking the joints, which seemed completely to renovate the system, when suffering either from a surfeit or fatigue. The fatter the chiefs, the more they required the operation." "The most delightful of the traveler's comforts is the lomilomi. It is something between a squeeze and a pinch, which none but a native knows how to perform; commencing gently, and increasing in violence as they proceed, every limb in the body is subjected to this treatment. It is, as a friend terms it, a physical regeneration. (Jarvis.)

A few articles of our Materia Medica, though not employed by the Hawaiian practitioner, are found indigenous upon the Islands, and should be mentioned. The number might, no doubt, be extended.

Lime (calx) is readily prepared by the calcination of coral.

Nitre (potassæ nitras), of which J. G. Sawkins remarks, it "is not found pure, so far as I can learn, on this group." (*Agricultural Report*, Vol. 1, No. 2.)

Sulphur, from about the crater of Kilanea.

Common Salt (sodii chloridum) is manufactured in considerable quantities from the ocean, and is also collected from the salt lake of *Alia-packai*. During the year ending June 30th, 1851, 5,332½ barrels of salt were exported. Mr. Sawkins remarks of the Island salt, that it is "rarely pure, on account of the sulphurous gases of the neighboring active volcanoes."

Glauber's Salt (sodæ sulphat.) is found at Kilanea, and has been occasionally used.

Sponges (spongia officinalis). They are, however, a very coarse, inferior article.

The Sorrel (rumex acetosa).

Arrow-root (tacca oceanica). From July 1st, 1850, to June 30th, 1851, inclusive, 16,780 pounds of prepared Arrow-root were exported. I extract the following from The United States Dispensatory:—"A variety of Arrow-root has been imported from the Sandwich Islands. It was supposed to be procured from the root of *Tacca pinnatifida*, which grows abundantly in Tahiti and other islands of the South Pacific; but Mr. Nuttall, during his visit to the Sandwich Islands, found that it was the product of another species of Tacco, which he describes under the name of Tacca oceanica. (*Am. Journal of Pharmacy*, ix., 305.) It is said that a similar product is obtained from Tacca pinnatifida, growing in the East India province of Arracan."

The Sugar Cane (saccharum) is by far the most important of the indigenous Materia Medica, in a commercial aspect. The manufactured *Sugar* which was exported, amounted in 1849 to 653,820 pounds, and in 1850 to 750,238 pounds. The exported *Molasses* (sacchari fæx) amounted in 1849 to 41,235 gallons, and in 1850 to 53,855 gallons.

A large number of the "Flora Medica" have been introduced since the discovery of the group. Quite a number of

them are thoroughly naturalized; and some are already of great importance among the exports, though in every such instance the article is not only a medicine, but also a food. Without question, the Sandwich Islands will yet produce for export many of the Materia Medica proper. From the paucity of my facts, I can do little more than give a mere list of these introductions, and even this will be defective.

I will first mention the *unofficinal* articles.

Coffee (coffea arabica). This was first permanently introduced by Lord Byron in 1828. In 1849, 28,231 pounds of coffee were exported, and in 1850, 208,428 pounds. (Cheever's *Sandwich Islands.*) It is of an excellent quality.

Indigo (indigofera). In many parts of the Islands it now grows wild. From experiments made by the writer many years since, the Sandwich Islands indigo may be pronounced a good variety—probably quite as good, in its medicinal and economical and manufacturing properties, as any in the markets of the world.

The Touch-me-Not (impatiens noli-me-tangere) grows luxuriantly.

Onions (capa). They are greatly relished by the natives as a condiment, and are raised by them in considerable quantities. During the year ending June 30, 1851, 3,759 barrels were exported.

The Irish Potatoe (solanum tuberosum). Of these there were exported, in 1849, 858 barrels, and in 1850, 51,957 barrels.

Indian Corn, or *Maize* (zea mays) grows well; is not extensively raised. During the year ending June 30, 1851, five barrels were exported.

Indian Rubber, or *Caoutchouc* (syphonia cahuchu, or S. elastica). A very useful tree, which it is to be hoped will be rapidly multiplied on the Islands.

Rice (oriza sativa). As yet it is only raised experimentally, but it may become an important production.

The Pumpkin (cucurbita pepo). *The Muskmelon* (cucumis melo). *The Cucumber* (cucumis sativus).

Of *officinal* plants, the following imperfect list will serve our purpose of exhibiting the admirable adaptation of the soil and climate to the production of many choice articles, and of indicating how independent of other countries, as to their Materia Medica, these Islands may become.

The Castor Oil (ricinus communis). This may be said to be effectually naturalized. In many places it grows, becoming a perennial. As yet no considerable use is made of it. There may, however, come a time when Castor Oil shall be manufactured there, not only for home consumption, but for export from the Islands—a rival even to "the cold-drawn East India oil."

Mustard (sinapis) grows wild over considerable tracts. I am not aware that it is at all used, even as a condiment, though, no doubt, possessing requisite strength. Mustard is even imported for the tables of foreign residents.

The Pomegranate (punica granatum) has been brought to maturity on the Sandwich Islands, and is, no doubt, still cultivated by those of horticultural tastes. The rinds of the fruit (malecorium), and the flowers (balaustines), may yet be valued among the rural inhabitants for their astringent and tonic properties; though, if it be true, as before stated, that verminous affections are rare, the famed properties of the bark of the root may not be called into requisition.

The Stramonium (datura stramonium), introduced many years since, now propagates itself, and was, about Honolulu, the nuisance of my boyish days. This powerful narcotic, so identical in its effects with belladonna, though by no means to be employed as a popular remedy, may yet be made valuable to the Island practitioner.

Several members of the genus *Citrus*—*The Orange* (c. aurantium), *The Citron* (c. medica), *The Lemon* (c. limonium), *The Lime* (c. acris)—which are, I believe, all introduced, form an important group. The orange was first planted on the Islands by Capt. Vancouver, in 1792. As a fruit, they have already became quite an article of export. In 1849, 10,000 were exported, and in 1850, 139,500. I know not

why the Sandwich Islands may not produce the much sought orange flower water (aurantii floris aqua), used both in the toilet chamber and the apothecary's shop; and if the flowers of the Seville or bitter orange (citrus vulgaris) be preferable, it can, no doubt, be added to the Island Flora. The oil, or neroli (aurantii oleum) will, no doubt, possess as fine a scent as that of France or Italy. Three hundred and four gallons of lime juice (limonus succus) were exported in the year ending June 30th, 1851.

Cotton (gossypium). This article, so useful in burns, grows well, and is of good quality. It has not become an article of export.

Wheat (triticum).

Oats (avena sativum). These two grains, officinal in the Pharmacopœia, and of such noted importance in other departments of civilized life, are every year becoming more important articles of culture for home consumption.

Coriander (coriandrum sativum). *Fennel* (feniculum vulgare). *Anise* (pimpinella anisum). *Horseradish* (cochlearia amoracia). *Cayenne Pepper* (capsicum). *Black Pepper* (piper nigrum). *Rhubarb* (rheum). *Lettuce* (lactuca sativa). *Sage* (salvia). *Carrots* (daucus carota). *The Broom* (cystisus scoparius). *Ginger* (zingiber). *Hops* (humulus lupulus). *Roses* (rosa galica). *Poppy* (papaver somnifera).

Aloes (aloe). I think I am correct in mentioning this, though as yet it is only cultivated for ornament.

The Tamarind (tamarindus Indica) has long been introduced, and is a very valuable tree for the tropic zone.

Tobacco (nicotiana tabaccum) has been long cultivated on the Islands, and promises to become a very important export.

Figs (ficus carica) are being more and more cultivated, and may become an important export.

The Grape (vitus virifera) grows well in some localities, and it is now a subject of active discussion and experiment, whether it may not be extensively cultivated. Should the anticipations of some be realized, the Hawaiian Islands are to become as noted for their wines as Portugal or Madeira.

Thus, to repeat Edmund Burke's witticism, the Sandwich Islands producers are aspiring to the rights of kings, viz.: to the "*jus de vinum.*" While the *Grapes* are cultivated for luxurious contributions to the table, and while the *Raisins* are dried for the home and foreign markets of future days, as medical men, we may "hope against hope," that *Hawaiian Wines*, with all their variety and excellence, shall be manufactured for the Materia Medica rather than for the Materia Alimentaria.

References.—I take pleasure in acknowledging my authorities:—*Journal of* TYERMAN & BENNET; *Polynesian Researches*, by ELLIS; JARVIS' *History of the Sandwich Islands; Narrative of the United States Exploring Expedition; Report of the Physicians of the Sandwich Islands Mission, in June*, 1839; *Meteorological Observations*, by T. C. B. ROOKE, Esq., *in Hawaiian Spectator*, Vols. I. and II.; *Meteorological Observations*, by Rev. E. JOHNSON; *American Journal of Science and Arts*, as copied in BINGHAM'S *Sandwich Islands;* Rev. A. BISHOP *on the Decrease of Population in the Sandwich Islands, Hawaiian Spectator*, Vol. I., p. 52; *Climate of the Sandwich Islands*, by G. P. JUDD, M. D., *Hawaiian Spectator*, Vol. I., No. 2; *Decrease of Population on the Hawaiian Islands*, by DAVID MALO, *Hawaiian Spectator*, Vol. II., p. 121; Rev. HENRY T. CHEEVER'S *Sandwich Islands;* Hon. R. C. WYLLIE'S *Notes on the Hawaiian Islands; Transactions of the Royal Hawaiian Agricultural Society*, Vol. I., Nos. 1 and 2.

In addition to the above works and essays, which have been directly quoted, the following may also be named as having lent more fullness and accuracy to my statements, regarding the climate and causes of depopulation:—DIBBLE'S *History of the Sandwich Islands;* BINGHAM'S *Sandwich Islands;* SIMPSON'S *Sandwich Islands*, and CHEEVER'S *Island World.* I am also indebted to Dr. CHAPIN'S publications and to his personal kindness in furnishing me facts not otherwise accessible:—No. 39 of *The American Journal of Medical Science*, as republished in the *Hawaiian Spectator*, Vol. I., p. 243; *Boston Medical and Surgical Journal*, Vol. XLII., Nos. 3 and 5;

Letters to the Writer, of January and February, 1850. These form an array of names one may be proud to mention, and they certainly demonstrate that my native Islands are as favorable for the development of mental as of physical health and vigor. Nor is there any rashness in affirming, that the "literary capabilities" of the Hawaiian Islands have not yet been fully developed—a fact most gratifying to every Hawaiian.

ART. II.—*Examination of the Rumex Crispus, or Yellow Dock.* By J. H. SALISBURY, M. D., New York.

General remarks.—This species belongs to an extensive family of plants, familiarly known as sorrel and dock, inhabiting Europe, the temperate parts of Africa, and the United States. Several plants of this species have acid leaves, owing to the presence mainly of oxalic acid. Those, as a general rule, which have the most of this acid, are distinguished by the commoner name of sorrel; some of which are highly esteemed in many places, as culinary vegetables. They are cooling, and somewhat diuretic, and are not considered injurious, unless too freely and frequently eaten. A small portion of oxalic acid is found in many of those known by the common name of *dock;* but in these it is principally in the petioles and stalks, instead of the leaves. Tannic acid is found in the roots and seeds of many of the species, and it is to this acid that they owe their astringency.

The Rumex Crispus, which is the subject of this essay, is considered by most authorities as a native of Europe, having been introduced into the United States. Griffith, however, in his medical botany, says it is a native of this country. It is very common, inhabiting not only waste places, but often, to the great annoyance of the farmer, taking possession of and literally overrunning his best fields. When it has once thoroughly obtained a foothold, it is not easy to eradicate it. It is very tenacious of life, and will often take root and

grow, after having been exposed for several days to the direct rays of the sun.

Description and composition.—The flowers are numerous, in a large panicle of axillary racemes, made up of half whorls, spirally arranged. Calyx, 6 parted, the three outside sepels are connected at their base, short, rugose, filiform, alternating with the three inside ones which envelope the seed, and which are much larger than the outer ones, and irregularly denticulated on their margins. One of these has a large tubercle on its back, filled with a starchy, astringent substance, like the seed; the others have an imperfect tubercle. The seeds are astringent like the root, but less bitter, containing considerable tonic acid.

100 grains of the seed, pedicels and calyces, taken when the seeds were in the milk, gave, of

Water,	77·060
Dry matter,	22·940
Ash,	·760
Organic matter,	22·180
Organic matter, calculated dry,	96·687
Ash, calculated dry,	3·313

100 grains of the ash gave the following results:—

Carbonic acid,			15·660
Silicic acid,			3·000
Phosphates and Silicates,	26·40	Phosphate of iron,	·800
		Lime,	4·838
		Magnesia,	·760
		Silicic acid,	·050
		Phosphoric acid,	19·952
Lime,			4·558
Magnesia,			3·120
Potash,			16·309
Soda,			17·495
Sodium,			4·206
Chlorine,			6·414
Sulphuric acid,			·532
			98·694

In the vicinity of New York, this plant flowers in June and the seed ripens the last of July and the first of August.

The leaves have a slightly bitter, pungent, astringent taste, with an odor, when bruised, of sorrel. They contain a small amount of tannic and oxalic acids. They are lanceolate, acute, slightly waved, particularly along the margins, radical ones large, having very long petioles.

Organic analysis of the fresh leaves.

100 grains of fresh leaf-blades gave, of

Starch,	none.
Chlorophylle, wax and resinous matter,	·755
Albumen,	·030
Caseine,	·200
Dextrine or gum,	·920
Extractive matter, very bitter, slightly astringent, odor somewhat like that of tobacco, nauseating,	4·270
Fibre, or lignin,	9·985
Per cent. ash in fibre, 8·053, strongly alkaline.	
Total dry matter,	16·160
Water,	85·520

The above calculated dry.

Starch,	none
Chlorophylle, wax and resinous matter,	4·680
Albumen,	·185
Caseine,	1·238
Dextrine,	5·693
Extractive matter,	26·424
Fibre or lignin,	61·789
	100·000

The petioles are quite sour, with free oxalic acid. 100 grs. of the fresh leaves gave, of

Water,	94·660
Dry matter,	5·340
Ash, strongly alkaline,	1·030
Organic matter,	4·310
Ash, calculated dry,	19·288
Organic matter, calculated dry	80·712

100 grs. of fresh leaf-blades gave, of

Water,	85·700
Dry matter,	14·300
Ash, very saline,	2·180

Organic matter,	12·120
Ash, calculated dry,	15·245
Organic matter, calculated dry,	84·755

100 grs. of the ash of the leaf-blades and petioles gave the following:—

Carbonic acid,			15·400
Silicic acid,			3·900
Phosphates and Silicates,	24·00	Lime,	·020
		Silicic acid,	·050
		Magnesia, peroxide of iron and phosphoric acid,	23·830
Lime,			1·633
Magnesia,			·880
Potash,			15·613
Soda,			26·880
Sodium,			3·889
Chlorine,			5·920
Sulphuric acid,			1·477
			99·492

100 grs. of fresh petioles gave, of oxalic acid, ·8363 of a grain—being almost one per cent. of acid.

Stalks from 18 to 42 inches high, woody, smooth at base, but becoming striated as you ascend. Slightly acid.

100 grs. of the ash of the stalk gave, of

Carbonic acid,			14·800
Silicic acid,			2·800
Phosphates,	21·70	Silicic acid;	·050
		Lime,	4·953
		Magnesia,	·850
		Phosphate of iron,	1·100
		Phosphoric acid,	14·747
Lime,			2·590
Magnesia,			2·040
Potash,			17·430
Soda,			22·753
Sodium,			3·368
Chlorine,			5·130
Sulphuric acid,			5·085
			99·696

100 grs. of fresh stalks gave, of

Water,	83·800
Dry matter,	16·200

Ash,	1·480
Organic matter,	14·720
Ash, calculated dry,	9·512
Organic matter, calculated dry,	90·488

Root perennial, fusiform, yellow, having from three to four rows of rootlets extending its whole length, slightly spiral in their course, covered with a loose epidermis, easily separated, and having but little taste. Inside of root less farinaceous than outside, and containing less of the pungent, bitter, astringent principle. Main root not as active as the small divisions. It consists of four distinct parts,—the medulla (or pith), the woody portion, the cortical layer, and the epidermis. The pith is a light, spongy mass of cellular tissue (in very old roots it becomes woody), and is often nearly tasteless. 100 grs. of pith gave, of

Water,	78·225
Dry matter,	21·775
Ash,	1·747
Organic matter,	20·028
Ash, calculated dry,	8·028
Organic matter, calculated dry,	91·976

The woody part is fibrous and tough, and contains less of the active principles than the cortical layers. It contains in 100 parts:—

Water,	72·779
Dry matter,	27·221
Ash,	1·139
Organic matter,	26·082
Ash, calculated dry,	4·184
Organic matter, calculated dry,	95·816

The cortical layer is easily separated from the woody portion, adhering to it firmly only in the line of the rootlets, and is fleshy and tender, and contains more of the active principle than any other part of the plant. 100 grs. of this layer, with the epidermis attached, gave, of

Water,	70·809
Dry matter,	29·191
Ash,	1·398
Organic matter,	27·793
Ash, calculated dry,	4·789
Organic matter, calculated dry,	95·211

The epidermis is loose and thin, and easily separated. Numerous medullary rays extend from the pith into the cortical layer.

Organic analysis of a Root three-quarters of an inch in diameter and ten inches in length.

100 grs. gave the following results:—

Starch,	5·987
Albumen,	1·431
Caseine,	·226
Dextrine, or gum,	2·024
Extractive matter, (this contains a trace of oxalic acid and considerable tannic, very bitter and astringent,)	5·184
Fibre, or lignin,	14·228
Per cent. ash in fibre, 1·998—strongly alkaline.	
Total dry matter,	29·080
Water,	70·320
	100·000

The above, calculated dry:—

Starch,	20·600
Albumen,	4·982
Caseine,	·777
Dextrine, or gum,	6·690
Extractive matter, oxalic and tannic acids,	17·856
Fibre, or lignin,	49·095
	100·000

100 grs. of the root of another plant gave, of

Water,	79·363
Dry matter,	20·637
Ash,	1·321
Organic matter,	19·316
Ash, calculated dry,	6·401
Organic matter, calculated dry,	93·599

100 grs. of the ash gave the following results:—

Carbonic acid,		16·000
Silicic acid,		·500
Phosphates, 26·20,	Silicic acid,	·060
	Lime,	4·220
	Magnesia,	4·250
	Phosphate of iron,	·400
	Phosphoric acid,	17·380

Lime,	3·827
Magnesia,	7·620
Potash,	14·723
Soda,	22·480
Sulphuric acid,	4·502
Chlorine,	3·898
	99·860

In an agricultural light, this may be considered as a very exhausting plant to the soil, as the analysis will show, if removed every year from it. The ash of all parts of the plant is made up principally of phosphates and alkalies, with considerable chlorine. The root and stalk contain a respectable quantity of sulphuric acid, while the leaf-blades, seeds, pedicels, and petioles, contain but little. The root is rich in magnesia, while but a moderate quantity is found in other parts. About one-fifth of the dry matter of the root is starch. Calling the extractive matter a nitrogenous body, from 30 to 40 per cent. of the dry matter of the whole plant consists of nitrogenous compounds. Excluding this amorphous body, from 12 to 17 per cent. is nitrogenous.

Comparative view of the Water, Inorganic and Organic Matter of different parts of the Plant, with the Ratio of the Parts; Plant taken when the seeds were in their Milk.

Parts of Plant.	Fresh Plant.				Same Plant deprived of Water.	
	Ratio of parts.	Water.	Inorganic Matter.	Organic Matter.	Inorganic Matter.	Organic Matter.
Petioles	14·409	94·66	1·03	4·31	19·288	80·712
Leaf-blades	34·552	85·70	2·18	12·12	15·245	84·755
Stalks	25·649	83·80	1·48	14·72	9·512	90·488
Root	17·291	79·363	1·321	19·316	6·401	93·599
Seeds, pedicels, and calyces	8·069	77·060	·760	22·180	3·313	96·687
Medulla of root	6·40	78·225	1·747	20·028	8·024	91·976
Cortical layer & epidermis of root	52·00	70·809	1·398	27·793	4·789	95·211
Woody portions of root	41·60	72·779	1·139	26·082	4·184	95·816

In the plant deprived of water: at this stage of its growth, the petioles stand first in the amount of inorganic matter, the

leaf-blades second, the stalks third, the roots fourth, and the seeds, pedicels, and calyces contain the smallest proportion. In the fresh plant, the proportion of inorganic matter is greater in the leaf-blades, stalk, and root, than in the petioles. It will be seen that, in the root, the pith contains nearly twice as much ash as either of the other parts; the cortical layer stands next, and the woody portion has the least. The woody layer, into which the rootlets discharge themselves, is filled with large ducts, arranged between the medullary rays for transmitting the juices of the plant.

The petioles contain, besides about one per cent. of oxalic acid, a small amount of tartaric and tannic acids; the root has a slight quantity of acetic, tartaric, and gallic acids, with considerable tannic acid. The tannic is that variety which gives with the salts of the peroxide of iron a greenish color.

There is a crystalline principle, in small quantity, in the root, which conducts itself somewhat like gallic acid. I have not yet examined it sufficiently to satisfy myself whether it is this or some other body. It shows itself in small acicular crystals, taking often a stellated arrangement. They are readily soluble in water, less readily soluble in absolute alcohol, and sparingly soluble in ether. They are found in the water and spirit extracts, from which they can be separated in a tolerably pure state by sulphuric ether, which slowly dissolves the crystals without taking up much of the amorphous extractive matter. The crystals dissolve in sulphuric acid, and the solution, raised to a temperature of 200°, is changed to a light amber color. The examination of this body will be resumed at the earliest opportunity.

Riegel found in the root of the Rumex obtusifolius a peculiar principle, which he called *rumicin*, and which bears a close resemblance to *rhabarbarin*, one of the active principles of rhubarb. The crystals observed in the R. crispus may be identical with the rumicin of the R. obtusifolius.

The root also contains a small amount of sugar and a slight quantity of an oily resinous body.

Uses and Medical Properties.—The leaves are sometimes

eaten for greens. They are somewhat laxative, and form an excellent diet in scorbutic complaints. The roots contain a yellow dye, and are said to be sometimes used in coloring. The dye, on exposure to the atmosphere for some time, changes into reddish yellow color.

Though its species is not officinal, yet it has enjoyed, at different times, considerable reputation as a medicine. Its medical properties are those of an astringent and a mild tonic. In this respect it has some resemblance to rhubarb. It is supposed to possess an alterative property, and has been employed in decoction and ointment in scorbutic disorders and cutaneous eruptions, and has attracted some attention in the treatment of itch.

The powdered root has been recommended as a dentifrice in cases of spongy gums. Recently it has been employed quite extensively in syrups and patent medicines.

It yields its active properties to water and alcohol. The infusion or decoction is of a light yellow, and the tincture of a dark yellow color, (the latter takes up nearly all the coloring matter,) with an odor of the root and an excessively pungent bitter taste. It requires several fresh additions of water or alcohol, before the active properties can all be abstracted. The residue, after suffering maceration, is inodorous, and almost tasteless. In several trials of this kind, it was found necessary to add water or alcohol four or five times, keeping the whole, after each addition, briskly boiling for ten or fifteen minutes, before the bitter astringent principles could be all taken up.

On subjecting the green root to a temperature of 212°, in a partly-closed vessel, it turns to a dark brown color, and gives off a very strong pungent odor like that of the root. The same odor, but less intense, is given off from it when boiled in water or alcohol. By long-continued boiling, the pungent bitter properties become greatly diminished, in consequence of their volatility. They can be distilled over with water, giving to that liquid the odor of the root, and a light yellow color. A yellowish gummy mass remains on evapo-

rating at a low temperature, which I have not had time to examine further. The medicinal virtues of the root, probably, depend in a great measure upon the volatile matter; if so, subjecting it to protracted heat, in any way, must tend to diminish its activity as a medicine.

I have not yet succeeded in obtaining an extract as bitter as the decoction at the commencement of the evaporation. The bitter principles seem to escape during the evaporation of the liquid, leaving a residue which is less bitter than the solution started with, but more nauseating. The examination of this plant will be continued.

ART. III.—*Perineal Section for Stricture of the Urethra.* By FREDERICK D. LENTE, M. D., Surgeon to the West Point Foundry.

FOR some time past, the question as to the appropriate treatment of the different varieties of stricture of the urethra has been much discussed by the British surgeons, and no small amount of acrimony has occasionally been exhibited by more than one distinguished surgeon in the advocacy of his favorite practice. But, in reading, in the January number of the London *Lancet* (American edition), the reports of some cases occurring in King's College Hospital, and the clinical remarks thereupon, we were much surprised at the fact, made apparent in those remarks, of the great infrequency of the operation of the perineal section in the metropolitan hospitals, and of the entire rejection of that operation, as impracticable, in those cases of stricture where no instrument can be passed into the bladder as a guide.

It is well known that Mr. Syme, of Edinburgh, never performs the operation which has—though, in our opinion, for very insufficient reasons—obtained his name, without first introducing a guide *into the bladder*, which he insists can *always* be done, there being, in his opinion, no such thing as an *impermeable* stricture. Mr. Fergusson, in remarking upon the hospital cases above alluded to, asks:—"Can the same operation (perineal section) be performed when no instru-

ment will pass?" We are surprised, we say, at this, for the reason that the perineal section, both with and without a guide passed *through* the stricture, has been by no means an uncommon operation in New York city for years past, reports of its successful performance, both in hospital and private practice, having been repeatedly published in the various journals and in the proceedings of medical societies. The surgeons of the New York Hospital were in the habit of performing it at least twenty years ago.

For distinguished British surgeons thus to pass over in silence these important achievements of American surgery, is to manifest either an inexcusable ignorance of foreign periodical literature, or an equally inexcusable prejudice, or a want of confidence in the reports of their transatlantic brethren. It is not the purpose of this communication to seek to enlighten our American readers on the subject, who are most of them, no doubt, familiar, or ought to be, with the merits of an operation now so well established among us; but we hope that, by some chance, it may find its way to the eyes of those on the other side of the Atlantic who appear to be less fortunate. In the *Transactions of the American Medical Association*, 4th vol., 1851, and included at p. 330, in an article furnished by the author of this paper, entitled, "*Surgical Statistics of the New York Hospital*," is a table embracing twenty-seven cases of this operation, which we take the liberty of incorporating into this article. Many of these cases occurred during our connection with the Hospital, from 1847 to 1851; and besides these, we have assisted at several private operations of the same character. Most of the latter were performed by Prof. A. C. Post, formerly surgeon to the New York Hospital, who has had an unusual number of these cases. Some of these were of the most unfavorable nature, abscesses, fistulas, broken-down constitution, complicating them. In one case, the patient was quite an aged man, the stricture being the result of an injury, and yet, in only one instance, during our connection with him as pupil and assistant, did a fatal result occur;

and this was the case of a hospital patient, a man of very dissipated habits, with a constitution completely shattered, in consequence, and with abscesses and *fistulæ in perineo.* (Case 22d of the Table.) We subjoin the following extract from a letter recently received from Dr. Post, for which liberty we must beg his indulgence, as it was written in haste, and intended only for our private information, and not for publication here:—"In private practice, I have performed the operation in two old cases of stricture, in which retention of urine had occurred, and in which life was in imminent danger. In both of these cases, the general health had long been seriously impaired, in consequence of the obstruction to the free evacuation of the bladder. In both, a complete and radical cure was effected, the patients having enjoyed excellent health for a number of years afterwards. There is a gentleman of my acquaintance now in this city, on whom a similiar operation was performed by Dr. Cheesman about ten years ago, with like success. I am also familiar with a case in which Dr. Buck operated, a number of years ago, in which a satisfactory result was obtained. Several years ago, I performed the operation on a gentleman from Long Island, who had injured his perineum by falling across a fence. About a week after the injury, entire retention of urine having occurred, and the stricture being so close that I could not pass any instrument through it, I performed the perineal section with complete success, and the patient continues to enjoy good health." In one of Dr. Post's private cases, mentioned by him, a fatal result occurred: in this also, the stricture and subsequent retention were the result of a fall across a fence. The patient was a boy fourteen years old; the perineal section was successful, but subsequent difficulties which arose, and under which the patient suffered for more than a year, caused his death.

We allude to the almost uniform success of this operation in our country, as far as our knowledge of it extends, because, in a report of several cases at King's College Hospital, in the January number of the *Lancet*, it is remarked that, by

many surgeons, it is regarded as a very fatal operation, Mr. Syme, on the contrary, having had great success. Mr. Lee, who has recently performed the perineal section without a guide passed *through* the stricture (the first instance in London, it would seem), asks, in a clinical lecture on the subject: —"How are we to account for such different results in the practice of various surgeons of equal skill?" And he answers by saying that, in his opinion, it is owing to the fact that all the strictures, upon which Mr. Syme has operated, have been situated "*anterior to the membranous part of the urethra*," and that therefore he did not wound the deep perineal fascia. Now, in most cases of bad stricture, according to our experience, the obstruction has existed *in* the membranous part of the canal; sometimes there have been two strictures in this portion. In almost all the cases included in the table, the stricture existed in this part of the urethra.

The operation of external division without a guide is looked upon, in the New York Hospital, as so practicable and so successful, though certainly, at times, one of the most annoying and difficult of operations, that, in the cases of obstinate retention of urine admitted into the institution during our connection with it, where the introduction of any instrument was found to be absolutely impracticable, the practice of puncturing the bladder was never once resorted to, but relief was always attempted by the perineal incision. In the London hospitals, on the contrary, it would seem that the operation of puncture is generally preferred. Mr. Hilton, surgeon to Guy's Hospital, says that twenty or thirty such cases have occurred there during the past few years, and reports three cases himself in one number of the *Lancet;* in one of which, the catheter having slipped from the opening (into the rectum), the operation was necessarily repeated *de novo* on the succeeding day: all of these three operations were successful. The operative procedure, in cases where the obstruction is impassable, is briefly this. The patient having been secured in the usual position, a medium-

sized catheter or sound is passed down to the stricture and kept in position by an assistant; the incision is then carried down in the median line to the end of the instrument, which is thus exposed; it is then continued downwards towards the posterior end of the stricture (which is usually of some length), and the anterior point of that part of the membranous portion, still unobstructed, and generally *distended* with urine, diligently sought for. This constitutes the only difficult part of the operation, and may occupy from five minutes to an hour or more; generally, from five to fifteen minutes, however, have sufficed to discover it. As soon as a fluctuating point is perceived, either by the touch or by an experimental incision in the proper direction, an opening is made with a sharp-pointed bistoury, a director introduced, and then the end of the instrument previously introduced through the distal portion of the urethra. It has been the usual custom to retain a *silver* instrument in the canal, secured by an appropriate bandage, as being the most cleanly. This is removed from time to time, and cleaned. In some cases, when the knife or director has been inadvertently removed from the posterior part of the divided urethra, after all the urine has been evacuated, and before the catheter has been passed into the bladder, it has been extremely difficult to find the opening again, and thus to complete the last step of the operation; especially in cases where the anatomical relations of the parts have been disturbed by the existence of abscesses and fistulous canals.

Regarding the question, so much mooted on the other side of the Atlantic, as to the possibility of passing an instrument in *every* case of stricture, we have only to say for ourselves, on this side, that, in many cases, our best surgeons, after the most persevering and gentle trials with all kinds of instruments, are sometimes completely foiled, and these are the cases to which the operation under discussion has been applied. Most, if not all of the cases contained in the Table were of this character, and all of those which are mentioned as having occurred in private practice,

with, perhaps, one exception, this having been complicated by large abscesses, and by fistulas. We are convinced of the fact which Mr. Fergusson says he has long had the idea of—"that the seeming dexterity (in passing instruments in these impermeable strictures) was nothing but actual violence;" and that surgeons "appear to pass the instrument easily into the bladder, whilst they are *really forcing* their way through a canal, the relative anatomy of which is very familiar to them." We may, in this connection, remark that, in the practice of the New York Hospital, when even the smallest-sized conical instrument can be introduced, the idea of dividing the perineum, as a means of cure, is not entertained, but a cure by gradual dilatation, with graduated instruments, is confidently expected: we remember no instance of a different result. This being the case, the first step in the operation, as performed by the great Scotch surgeon and by the surgeons of the London hospitals generally, is an argument against the propriety or necessity of any cutting operation whatever; for, why should a patient be subjected to so severe a procedure as the perineal section, when the passage of the guide through the stricture may be followed by larger instruments, and the canal thus enlarged to its normal dimensions? In cases complicated by abscess or by extensive fistulas, it may be, and is often, necessary to perform the cutting operation, even though a small instrument can be introduced. In a case which we have recently had under treatment, and which we may be permitted to introduce here as an exemplification, it was only after repeated trials, even with the important aid of an anesthetic, and with considerable difficulty, that we could introduce an instrument, and then only one of the fine-pointed, flexible bougies manufactured by the French, and so admirably adapted to these cases, its diameter, at its largest part, being only one-half that of silver catheter No. 1, and yet, in the course of three or four weeks, by careful and gradual dilatation, the urethra was enlarged to the size of No. 10.

The following is the table referred to in the preceding pages:—

No.	Age.	Duration.	Date of operation.	Date of discharge.	Result.	Cause of death.
1	33	4 years.	Jan. 9.	July 13.	Cured.	
2	27	3 years.	Nov. 22.	Feb. 1.	Cured.	
3	51	5 years.	Oct. 24.	Jan. 8.	Much rel'd.	
4	26	Over 4 years.	April 21.	July 1.	Relieved.	
5	29	Several years.	Sept. 6.	Dec. 4.	Cured.	
6	52	10 years.	Sept. 7.	Oct. 17.	Cured.	
7	48		July 8.	July 17.	Died.	Peritonitis.
8	14		Nov. 20.	Jan. 13.	Cured.	
9	30	5 years.	Dec. 15.	Feb. 27.	Cured.	
10	25	12 years.	Aug. 31.	Jan. 6.	Cured.	
11	43	3 years.	Dec. 14.	Feb. 3.	Cured.	
12	50		Jan. 31.	June 16.	Cured.	
13	55	8 years.	July 17.	Aug. 23.	Cured.	
14	56	18 years.	March 9.	May 22.	Much rel'd	
15			Aug. 4.	Aug. 17.	Relieved.	
16	40		Dec. 31.	July 25.	Cured.	
17	20		June 15.	Aug. 28.	Cured.	
18	31	5 years.	April 23.	Oct. 16.	Relieved.	
19	35		March 17.	May 5.	Cured.	
20	63	20 years.	June 27.	July 24.	Cured.	
21	38	7 years.	Nov. 30.	Dec. 28.	Cured.	
22	31	7 years.	May 19.	June 14.	Died.	Exten'e suppuration.
23	48		Feb 24.	July 16.	Cured.	
24	49	4 years.	Oct. 17.	July 17.	Relieved.	
25	13	1 year.	Oct. 13.	March 8.	Cured.	
26	29	4 years.	May 8.	May 8.	Died.	Coma.
27	23		Aug. 9.	Oct. 6.	Cured.	

In Cases 10, 11, and 15, the operation of *internal* division was performed; Case 23, was a pseudo-lithotomy operation, for removing portions of a gutta-percha bougie; all the others were cases of external division, in the manner described in the preceding pages of this paper. Case 1 was complicated by extensive abscess and fistulous openings in the perineum; Case 3, by "fistulous openings;" Case 4, by "infiltration of urine, and sloughing of scrotum before operation—patient refused to undergo a further operation;" Case 5, by "*fistulæ in perineo;*" Case 8 resulted from a "wound of perineum;" Case 10 resulted from "injury of perineum;" Cases 16, 17, 18, and 19, resulted from "injury of perineum;" in Case 22, patient had a broken constitution, and "extensive abscesses had formed previous to operation;" Case 27 resulted from injury of perineum. The other cases resulted from the usual

cause. Of the number, *three died*, two *were much relieved*, four were relieved, and *eighteen were cured*. "In some of the cases which were discharged as *relieved*, a further operation might have resulted in *cure*, but the patients were unwilling to submit to it," being contented with the alleviation of their sufferings already afforded. In many instances in which the operation was performed, it was under very unfavorable circumstances, as will be seen by a glance at the table. In seventeen cases, in which the duration of the existence of the stricture, previous to the operation, is mentioned, the average is *seven years*. "In most, if not all of the cases, the operation was regarded as the only means of effecting a cure, all other means having failed; and, in many instances, it was necessary, not only for the purpose of rendering the patient's life more comfortable, but for saving it. The proportion of cutting operations for stricture, to the number treated by *dilatation*, is very small in the New York Hospital."

We look upon it as a matter of the greatest importance, to establish the feasibility and comparative safety of the perineal section, and especially as performed *without a guide*, for in most, if not all cases requiring the operation, surgeons find it impracticable to introduce any guide, although one of small size may, perhaps, usually be *forced* through by one well acquainted with the course of the canal and its relations, but in no case, we think, without danger of making false passages, and thus materially increasing the danger, and diminishing the chances of a perfect cure from the subsequent operation. The cases included in our Table, and those performed in private practice in the city, with like results, will, in our opinion, go far towards increasing the confidence of surgeons in this operation.

Mr. Lee, of King's College Hospital, in his lecture previously alluded to, looks upon the wound of the *deep perineal fascia*, necessarily made in this operation where the obstruction is in the membranous portion, as "fatal to its general success," from the danger of extravasation of urine behind the fascia, and consequent inflammation with its *sequelæ*. We

can only say that the results of the operations performed here, and generally alluded to in this paper, although they do not remove the apprehension of this danger entirely, yet indicate that it is of so infrequent occurrence as scarcely to be taken into consideration, when the stricture is of such a character as to call imperatively for operative interference. The safeguard against this occurence lies, we conceive, is this,—the stricture, not having been *forced*, as in cases where it is thought requisite to pass an instrument into the bladder as a guide, the parts contiguous to it are not irritated or wounded by the violence necessarily used, and by the wrong direction which, to some extent, the point must inevitably take, especially when the stricture is of some length, and therefore the opening is not so likely to close up against the free passage of the urine, or to take an inflammatory action; again, this opening into the membranous portion is so free in its communication with the external wound, that nothing hinders the easy egress of urine from the bladder, which, finding a far more easy access through it than through the cellular tissue behind the fascia, will almost invariably take the former course, and infiltration thus be rendered, *in ordinary circumstances*, almost impossible. To insure a certain and complete passage of the urine in this direction, it is the custom of some surgeons to retain a very large-sized female catheter, No. 14 or 15, in the wound for some days, and not to introduce an instrument immediately from the distal portion of the canal.

We trust that cases alluded to, and the facts adduced in this communication, will be considered as establishing the two points so much doubted by the English surgeons. First, that the perineal section for stricture, whether it be in the bulbous or membranous portion, is a comparatively safe operation; safer than most surgical operations of equal importance. Secondly, that a skillful surgeon will almost always succeed, even in cases where no instrument of any kind can be passed into the bladder, and, consequently, when he has to cut for the posterior extremity of the stricture, with

no other guide than his anatomical acquaintance with the relation of the parts.

Since the foregoing was written, we have met, in a recent publication, with a second instance of external division for the cure of impermeable stricture, without a guide, by an English surgeon, and with success. Also with an account of a "new method of urethrotomy for the cure of stricture," by M. Maisonneuve, Hôpital Cochin, Paris, who precedes his description of the operation with the remark that the other cutting operations are "usually so delicate and complex, and, above all, the accidents they may involve are so numerous and so serious, that the most experienced practitioners hesitate to adopt them." Before proceeding to the performance of the operation, he enjoins the following "preliminaries." "Before performing the operation by my method, the surgeon should gradually bring the urethra to a degree of dilatation sufficient to admit of the urethrotome being easily introduced. He ought especially to accustom the canal to the contact of instruments, in order to avoid the febrile attacks, which, in this region, so frequently complicate even the most simple operations. To this end the patient should, during at least a fortnight, be subjected to progressive dilatation by means of elastic bougies. He should also be kept on light diet, have frequent baths, emollient lavements, and cooling drinks."

"This preliminary treatment is not, however, intended merely to accustom the canal to the contact of instruments, and to obtain the amount of dilatation necessary to the introduction of the urethrotome. It is also useful by enabling the surgeon to introduce exploring instruments, and so to ascertain exactly the number of the strictures, their position, extent, degree of resistance, etc." "All these objects having been accomplished, the operation may be proceeded with." The patient having been properly secured, M. Maisonneuve goes on to say:—"The surgeon introduces the urethrotome, as he would an ordinary catheter, to three centimetres *beyond the last stricture.*" A concealed knife is then thrust out, and

the stricture divided, the instrument being arranged in such a manner as also to dilate the stricture, to some extent, at the same time.

Now, we would simply ask, why, after having accomplished "all these objects," the not least important of which being the complete permeation of "all the strictures," and that by no very small instrument, it would seem,—why any further operative procedure should be considered necessary? Why not go on dilating with graduated sounds, and thus effect a cure, as can be done in almost all cases, without subjecting the patient to a severe cutting operation? For, an operation, simple as its inventor would have us believe it is, may be called severe, when it has, even occasionally, such sequences as he himself describes—"engorgement of the testicle," "abscess in the perineum," and "urethral fever." Besides, the operation, even after the cutting is accomplished, is not finished, but requires five or six weeks of "extremely prudent catheterism" to complete the cure; and, again, what is to become of those urgent cases of complete retention which call for immediate relief, if a preliminary course of treatment, occupying "at least a fortnight," is absolutely requisite to the complete success of this new method? The same remarks in part apply to M. Reybard's method, recently introduced to the public. In this, also, the instrument must first be introduced *through the stricture* and to some distance beyond it, which is then incised from behind forwards. If our position be correct, that almost every stricture, however callous, may be dilated to the natural size of the urethra and maintained so, by the careful use of graduated bougies, without incurring any risk whatever to the patient, or putting him to any considerable pain or inconvenience—and the scores of cases so treated in the New York Hospital for the last twenty years fully attest its correctness—then neither of those new methods is applicable to any case of stricture, for, wherever *they* are applicable, the method by dilatation is equally so. They are scarcely to be preferred to the method gravely advised by a surgeon of this

country some years ago—of cutting into the bladder above the pubes, and passing a conical instrument through the stricture from behind forwards, when the introduction in the opposite direction was found to be impracticable.

ART. IV.—*Remarks on Occlusion of the Uterus, with a case.* By A. WILLARD, M. D., Greene, N. Y.

CASE.—On the 27th of June, 1852, I was requested by a young gentleman, who had the case in charge, to see a young woman in labor with her first child. It was nearly sunrise when I first saw her, and I was informed she had been suffering parturient pains during the whole night, and part of the preceding day—that towards morning the pains had become so exceedingly severe, that rupture of the uterus was feared—that the fœtal head was low down in the pelvis, but that for some hours no progress had been made in the labor, and that no os uteri had, as yet, been discovered.

On examination, the head was found filling the pelvic cavity, almost pressing on the perineum, and seemingly covered with a delicate, smooth membrane, which, at the first touch, might have been readily enough mistaken for "the membranes;" but, as it terminated all around its circumference in the vaginal wall, it was, of course, evident that it was, in fact, the distended uterus, drawn tensely over the advancing head of the child, but no delicacy of touch could detect any thing like the remains of a cervix uteri, or an os tincæ. Still it was quite reasonable to suppose that these two very important anatomical localities had existed somewhere about the apparatus feminea of this patient, and the evidence of the *present* existence of the os tincæ, at least, was, on the whole, quite convincing and undeniable, inasmuch as there was a constant dribbling of liquor amnii, which was readily distinguishable by its peculiar odor. After much search, a very slight dimple was found high up on the posterior surface of the presenting part, feeling very much as the impression of a common-sized shot on the smooth membrane

might be supposed to feel; or, rather, it was a minute spot, feeling rather softer than the rest of the membrane. This point was explored with a small-sized elastic catheter, which it was found could, without any special difficulty, be passed through it into the cavity of the uterus. There was no extra heat or irritation about the vagina—the parts were soft and dilatable—the portion of the uterus covering the head of the child had no feeling of rigidity about it—even the os uteri itself had the same pliable feeling, but seemed obstinately disposed to resist all natural attempts at dilatation. The pains, indeed, were severe, and although the uterus seemed in full action, and was rendered tense and hard at each successive contraction, still there was no progress made in the labor.

Shortly after sunrise, the severity of the pains began to subside, and as there was no impaction of the head, and no obstruction of the natural passages, it was concluded to wait patiently the efforts of nature. It was, indeed, thought that no other proper course could be taken, for, in addition to the favorable state of the parts concerned, the woman was of a hardy race, inured to labor, in perfect health and full strength, and, as yet, there had not been enough of fatigue to render the nervous system irritable to any great degree. With a slight anodyne, therefore, the case was, for the present, left to itself.

The patient remained tolerably quiet, with only an occasional uncomfortable feeling, till the following night, when the pains recurred with a good deal of severity, and with perfect regularity. Thus the labor continued, with a variable degree of intensity, until Saturday, July 5th, the pains sometimes being so extremely severe as almost to threaten a rupture of the uterus; at others, so light as to be scarcely noticeable, and sometimes, for a few hours, entirely subsiding, enabling the woman to recruit her energies, and recover from the fatigue of so much exertion. During all this long series of days and nights, and with all this amount of pain, no perceptible effect had been produced on the obstinately

contracted os uteri; but on this day (Saturday) the uterine contractions seemed to become more constant, and to have less disposition to subside. In the afternoon a slight increase in the diameter of the os uteri was perceived, which continued to augment very gradually, but constantly, till nearly Sunday morning, when a perfectly healthy female child was born, almost ten days after the actual commencement of the labor. The mother was able to be up and about the house in a week or ten days.

There may, perhaps, be nothing in this case which is particularly uncommon, or decidedly interesting; still it may serve as a point from which certain deductions may be drawn, possibly not entirely unimportant to the practitioner.

No one, it is presumed, will doubt that this was decidedly a case of lingering and protracted labor; but the causes which produced this state are not quite so apparent as the fact itself. One cause may undoubtedly be looked for in the dribbling away of the liquor amnii; but a still more important one is, doubtless, to be found in the misplaced os uteri, a consequence, we apprehend, of inequality of action in the uterine fibres. Irregularity of uterine action is ordinarily classed among the causes of protracted labors, but writers on the subject do not explain very satisfactorily, to our understanding, in what this irregularity consists.

In order to understand the irregular action of the uterus, it is first necessary for us to understand its regular action.

Some of the older writers on the subject consider that the contractions of the uterus, during labor, mechanically stretch the os uteri, by pressing the membranes and the presenting part of the fœtus down upon it; but says Rigby,* this is not the way, "it dilates in consequence of the circular fibres being no longer able to maintain that state of contraction which they had preserved during pregnancy; they are overpowered by the longitudinal fibres of the uterus, which by their contractions pull open the os uteri equally in every

* *System of Midwifery.* Phila. Ed., 1841, p. 158.

direction." All this we deem, with all due deference, to be "an odds without any difference," for, whether the os uteri be *stretched open*, or *pulled open*, it is pretty evident that the contents of the womb must be pressed upon the os uteri in the one case, to serve as a *stretcher* for it, and in the other as a sort of fulcrum or fixed point over which it is *to be stretched*. It is needless to quote authority, to show that the parturient action of the uterus is considered to consist in a series of contractions, whereby, in due time, its contents are expelled.

We imagine, however, that the *true* parturient action of the uterus is compound in its character; that it consists in the consentaneous muscular contraction of the one part with the muscular dilatation of another: that is, while there is contraction of the body and fundus of the womb, there must necessarily be, and is, a corresponding dilatation of the lower portion and the cervix, or that portion of the organ which has received that anatomical designation. The more equal these two widely differing actions are, the more easy, it is evident, will be the labor, and the less will be the amount of pain the female is destined to endure; and so long as these two actions continue to coöperate with perfect equality of force, so long will the labor be continued to the entire satisfaction of all concerned. But it is evident that this coöperative action may vary in a variety of ways.

1st. There may be no disposition in the lower portion or neck of the womb and the os uteri to dilate, while the upper portion is in a state of active contraction.

2d. The lower portion of the womb and the os uteri may contract at the same time with the body of the organ, and the abnormal contraction of the inferior portion may be either permanent or intermittent, and corresponding with the regular puerperal contractions. In these instances the os uteri would be undilatable, and, in the first, *rigid*. Every accoucheur has found in some cases of protracted labor, on examination, that the os uteri becomes tense during the continuance of the pain, and actually contracted in its diameter, and that on the subsidence of the uterine action it

again becomes flaccid and apparently dilatable; and, in other instances, that the os uteri feels hard and rigid, not only during the continuance of the pain, but during the intermission also.

3d. The os uteri may refuse to dilate, and, at the same time, some other circumscribed portion of the uterus may take on that action. If this circumscribed spot should occur in the body of the womb, there would be danger of rupture, and the consequent passage of the child into the cavity of the abdomen; if in the lower portion, the head of the child would pass into a sort of cul de sac, with the same danger of rupture, but, in consequence of the locality, with no very essential danger to the patient.

4th. The contractions may be in a circular direction only.

5th. The contractions may affect the longitudinal fibres only, and in neither of these cases, it is easy to perceive, would there be any expulsive action.

6th. As the muscular fibres of the uterus are supposed to run and to act in all directions, it follows that they must all act with equal comparative strength, or the action is not regular; hence, all the fibres may be in action, and still the action be irregular, from this cause—that is, one set of fibres may act with one degree of strength, another with another degree, and so on, and the consequence, we may reasonably conclude, would be long, lingering, tedious, and ineffectual labor, but without any special tendency to rupture of the womb. Allowing these positions to be true, it follows, that uterine action may be *regular* and still not *perfect*.

Now, in the case which has been narrated, there seems to have been a disposition in the anterior and inferior portion of the uterus to dilate, while at the same time the posterior and inferior portions retained their position and the os uteri remained closed and strongly contracted. It is quite evident that if this state of the parts existed, while the superior portion of the uterus was making active parturient efforts, the necessary consequence would be, that the advancing head of

the child would be thrown down into a sort of cul de sac, and the os uteri be thrown two or three inches, more or less, above the most depending part of the child's head, and looking towards the sacrum.

If this disposition to dilate happened to the *posterior* and inferior portion of the uterus, the os uteri would be thrown upward and under the pubis; and so, if the dilatation should happen on either side, the os uteri would necessarily be turned to the opposite. Is not this the state of the parts which actually happens in what is called obliquity of the os uteri?

Every accoucheur knows that where the os uteri is found to any great degree turned from the centre of the pelvis in any direction, he may expect, as a general thing, a long and tedious labor, and that his virtue of patience will, probably, be put to a pretty severe test.

If this obliquity were caused by a deviation of the uterus, in any direction from the median line or from the line of the pelvic axis, the evil might be altered by placing the woman in such a position as to cause the organ to fall towards the opposite direction. But, ordinarily, altering the relative position of the womb, does not materially alter the position of the os uteri, and the reason why is tolerably evident, and that is, that the centre of motion of the womb, at full time, must necessarily be very near its orifice, if not directly there; and besides, if any one will take the trouble to imagine the direction of the line of action of the uterus, (if I may so term the direction of the expelling force of the parturient action,) in any one of these cases of "obliquity of the os uteri," he will undoubtedly find that it will fall in such a direction as to bring the os uteri some removes from the centre of action. Now, if the effect of the throes of labor is to bring the fundus uteri very nearly or quite into the right position to make it correspond to the axis of the pelvis, so that the two points shall be in the line of action of the uterus, and it is believed that such is ordinarily the case—it is not readily understood how it is possible to conceive that

obliquity of the womb has any thing to do with obliquity of the os uteri. True, some writers do not mention this obliquity of the os uteri; some barely notice it; and some give it a good deal of importance. It, however, does at times, perhaps, frequently exist in a greater or less degree, and the cause of it we have attempted, in as few words as may be, to point out; and the question now comes up:—May it not at times exist to so great a degree as to lead us into serious error?

If we admit that the os uteri may be turned to one side or the other *in any* degree, in consequence of irregular action, we may also admit that it may be turned, by the same cause, to so great an extent that it may become absolutely concealed at that point where the mucous lining is reflected from the depending part of the uterus to the vaginal walls. In a case of this sort we might (possibly) find a case of *atresia uteri*—a case, at any rate, in which it would be extremely difficult, if not impossible, by any ordinary means, to discover the os uteri, and which may at some time, perhaps, have passed for a morbid closure of that orifice.

In making this suggestion, we do not wish to be understood as denying the existence of this accident, for we have long since learned to admit the possibility of almost any thing. We do, however, desire to express the opinion that, from the nature of things, such an accident must be extremely infrequent, and more especially so in the pregnant state.

Every one, at all conversant with the subject, knows that it is extremely difficult to procure adhesions of the mucous membranes, and that Nature has particularly guarded the orifices of the mucous passages, with unwonted care, against the occurrence of such an accident.

Does a closure of these passages or their orifices *ever* take place by adhesion, unless some disease or accident occur which entirely changes the character of the mucous tissue?

Plastic lymph must be secreted before adhesion will take place, and it may even be doubted whether mucous membranes, while they remain such, ever secrete it. "When, by

the violence of the local action, false membrane is thrown out on a mucous surface, we generally find that a fluid is effused between them, by which their adhesion is prevented, and the effused lymph may be discharged. We have examples of this in croup, when the false membrane is coughed up, and occasionally in virulent gonorrhœa, when shreds of lymph, resembling the urethra in shape, come away with the urine. In the experiments recorded by Mr. Hunter, it required the most violent means to induce adhesive inflammation in a mucous structure.*

We suppose that in all cases of pregnancy the os uteri is closed, not by actual contact of its sides, as in the closure of most of the mucous passages, but by the actual insertion of a plug of inorganizable mucus, and this fact makes it doubly difficult to conceive how closure by adhesion can take place, unless Nature sometimes makes a blunder, and fills the orifice with plastic lymph instead of mucus. It is possible, that a sufficient amount of mechanical injury may happen to disarrange this plug of mucus, and excite a degree of inflammation adequate to the production of adhesion. This, however, is almost apocryphal, inasmuch as Nature has wisely stepped in to prevent such an unlucky event; the first effect of an inflammation of a mucous membrane, under ordinary circumstances, being an increase in the natural secretion, which at the same time relieves the diseased action and prevents adhesion; and the second effect is a discharge of puriform mucus, which has a precisely similar effect. But nevertheless, such accidents are said to happen, and we occasionally find one of the kind reported in the periodicals. In Dr. Ashwell's *Treatise on the Diseases of Females*, several pages are devoted to the consideration of *Occlusion and Rigidity of the Os Uteri*, being a reprint, however, almost verbatim, of a monograph of his on that subject, published in *Guy's Hospital Reports* for April, 1839.

In this paper he quotes freely from a Thesis of Dr. Naegele,

* V. MORGAN *On Inflammation and its Effects.*

Jr., *on Conglutination of the Os Uteri*, published at Heidelburg in 1835, referring to cases therein, and also to examples in Smellie's cases and elsewhere.

Several of the cases of occlusion referred to are so precisely alike in all their symptoms, that a description of one will almost answer for a description of the whole. Naegele, Ashwell, and Rigby, agree in the fact, that certain cases of agglutination occur in "which, by some adhesive process, apparently that of inflammation, the lips of the opening (os uteri) adhere and completely close it." Rigby, *Midwifery*, p. 312. "It is important to bear in mind, that such closure may not be attended by any other disease of the parts: the adhesion may be firm and complete, but there may be no scirrhous induration—no distinct nodule of hard substance; the neck of the uterus will be forced down by the pains; and the sensations imparted to the finger, on examination during labor, will be *quite natural*, excepting only that *no aperture* will be found." Ashwell, *on Diseases of Females*, 315.

Baudelocque describes this condition of the os uteri; but he, as well as North, Dewees, and many others, believes it to be owing to anterior obliquity of the womb. "Within our knowledge," says Dr. Dewees, "this case has been mistaken for an occlusion of the os uteri, and where, upon consultation, it was determined that the uterus should be cut, to make an artificial opening for the fœtus to pass through. They thought themselves justified in this opinion, first, by no os uteri being discoverable by the most diligent search for it; and, secondly, by the head being about to engage under the arch of the pubis covered by the womb. Accordingly the labia were separated and the uterine tumor brought into view; an incision was now made the whole length of the exposed tumor, by a scalpel, down to the head of the child, the liquor amnii was evacuated, and, in due course of time, the artificial opening was dilated sufficiently to give passage to the child. The woman recovered, and, to the disgrace of the accoucheurs who attended her, was delivered, per vias naturales, of several children afterwards,—a damning proof

that the operation was most wantonly performed." *Compendious System of Midwifery*, §223.

In speaking of this state of the os uteri, Rigby says, p. 313:—"The os uteri is closed by a superficial cohesion of its edges, which in some cases seem to adhere by means of an interstitial fibrous substance: this, when of a firmer consistence, forms a species of false membrane, which, in some cases, is capable of resisting the most powerful uterine contractions, and in others it seems to cover the os uteri so completely, as to conceal it most effectually and give rise to the erroneous conclusion that the os uteri is altogether wanting." "Although," says Prof. Naegele, "this obstacle in some cases is capable of resisting the most powerful efforts of the uterus, a degree of pressure against it while in a state of *strong distention*, either by the tip of the finger or a female catheter, is quite sufficient to overcome it."

It seems to us exceedingly improbable, to say the least, that a slight adhesion of the os uteri, one that will give way to a slight scratch of the finger-nail, or a still slighter pressure of the catheter, should be able to resist the whole immense power of the uterus while in perfect action—a power which, under ordinary circumstances, is almost resistless. If the action of the uterus were perfect and regular, (we mean that compound action which we have supposed constitutes what is technically called a *regular pain*,) this would seem almost to be an impossibility; but if, as we have supposed, there should be a general contraction of the uterus, without the dilating action, or any disposition of the organ thereto; we apprehend there would be no probability, scarcely a possibility, that the os uteri would dilate at all; under such circumstances we imagine the uterus would be as likely to rend itself in one place as another, by its own action. But it may be said that when the uterus is incised, the fœtus is pretty soon expelled; this, however, is not always the fact, probably not in a majority of instances, as the recorded cases will show. Everybody knows that, when a muscle is cut, the divided ends recede from each other,

and the greater the muscular action, the greater, of course, will be the recession—so in this case, the uncut muscular fibres continue their action, while the divided fibres, of course, retract, leaving an aperture through which the contents of the uterus would be forced, provided the uterine action be at all perfect in its character; but, even after incision, it is pretty evident that regular and perfect contractions of the uterus do not always follow, and in such cases we should infer (what cases show to be actually true) that hours might intervene between the operation and the expulsion of the fœtus, or, that it might even become necessary to make use of the forceps, or resort to some more serious operation.

We will refer to some of the cases on record, for the purpose of seeing how far our views are carried out by them.

From the monograph of Dr. Ashwell we derive the following, which are classed under the head of "*Entire Occlusion.*" Cases 2, 3, 5 and 6, are examples taken from the Thesis of Prof. Naegele. In all these cases "the occlusion was produced by cellular membrane filling up the orifices and uniting the margins of the aperture." In the two first and probably in the last, "the lower part of the uterus was rendered very hard and tense, and greatly pushed down by the uterine efforts; so that in one of the cases it might with some excuse have been mistaken for the bag or membranes containing the liquor amnii." In one of the cases the patient was more or less in labor for eight days; in another, for two days and nights; in the other two the time is not mentioned. In one case the pressure of the finger was sufficient to rupture the membrane, and in the others the female catheter was used; in all "parturition was accomplished without instruments, the children were living and the mothers did well."

In relation to these four cases, we have only to say, that we can perceive no especial difference between them and our own, excepting that, in one case, there was an evident dribbling away of the waters, pretty decidedly establishing

the fact that there was a patent os uteri somewhere. Dr. Rigby informs us, on the authority of Prof. Naegele, that little or no pain is produced by this operation, and that "the appearance of a slight discharge of blood will show that the structure has given away." We respectfully suggest that the introduction of the tip of the finger or the catheter into the os uteri, when in a state of *strong distention*, and but slightly or not at all dilated, will always produce a "slight discharge of blood," so that, although this discharge may be evidence that the obstacle "has given way," it is not necessarily evidence that there was any obstacle there. Is it not true that, sometimes, irritating the os uteri with the tip of the finger will produce regular and perfect uterine contractions, when they had previously been imperfect and inefficient—and may not an incision (the stimulus of the knife) produce at times the same effect?

We admit our perfect inability to see any thing, in these cases, beyond a lingering labor, the natural and unavoidable consequence of a peculiar, imperfect and irregular uterine action.

CASE 4 (from Prof. Naegele's Thesis).—"No uterine orifice could be detected, although the lower segment of the womb was pushed almost to the lower orifice of the vagina—this was on the third day after the accession of the labor—the woman was very much exhausted—an incision was made with the scalpel—a dead child extracted by the forceps, and and in the evening the woman died."

No. 7 (from the same).—"The patient had suffered from leucorrhœa during the whole period. There was no os uteri, and on the third day of the labor one was made by incision—six hours afterwards he applied the forceps and brought a living child into the world—the patient recovered well—the orifice retained afterwards the form it had received from the incision, and in the next confinement there was no necessity for interference."

No. 8 (from the same).—"The labor commenced on the 2d of May, and the Doctor, after repeated examinations, was

unable to find an os uteri. On the 4th an incision was made in the *neck* of the womb," (how was the neck found, when the os tincæ could not be?) "and, in twenty-two hours afterwards, the child was brought away by the forceps."

These seven cases are all more or less deficient in detail. We are told nothing of the general health of the patients during the period of pregnancy,—no accident is mentioned which would have given rise to inflammatory action in the parts concerned,—nothing is said about pelvic deformities, and no abnormal condition of the soft parts is mentioned, with one exception—that in which the patient had leucorrhœa. Under such circumstances, we may reasonably conclude that the patients were all in ordinary health during pregnancy, with the exception of the occlusion of the uterus. In the three last cases it is distinctly stated, that no os uteri could be found—that it did *not* exist, we, of course, are unable to prove, except by negative evidence. The patients had been in ordinary health—there is no evidence that any local disease existed which could have produced organic adhesion; for we imagine the leucorrhœa, which one of the patients had, to be totally incompatible with adhesion. If organized or vital adhesion had once taken place, we can see no reason why it should not again have happened after the operation, and effected a perfect closure of the womb. We are not informed that was the fact in any case, but, on the contrary, we are distinctly told in one of them that, "in the next confinement there was no necessity for interference." We are not told that menstruation did *not* occur in due course; we are therefore at liberty to infer that it *did*, and, indeed, we are told that "the mothers did well" in four of the seven cases.

May we not, in view of these circumstances, reasonably doubt the existence of organic closure of the os uteri in all these cases? But, the case on which Dr. Ashwell seems to pin the most of his faith, is one reported by Mr. Tweedie, in *Guy's Hospital Reports*, and is to be found also in Dr. A.'s

Treatise on the Diseases of Females, p. 326, and is headed "*Pregnancy with imperforate Uterus.*"

We give the case in a somewhat condensed form:—"Mrs. P., aged 23 or 24, was taken in labor, with her first child, on the 14th or 15th of November, 1826, at 7 o'clock." * * "Mr. Roe (the attendant) observed the pains to be urgent and very powerful; but, although he remained several hours with her, he had not succeeded in discovering the os uteri."

Mr. Tweedie (the reporter) saw her at 2 o'clock; he says:—"I found a firm, uniform globular mass forcing down into the vagina, at every pain, which was of great force, *but no irregularity on its surface could be detected*," (the italics are our own,) "and a very careful examination of the entire vagina, whose extremity was easily reached at all points, failed in detecting an os uteri."

"In the evening we met again—the labor pains had persisted, and were of unusual severity." * * * * "A most careful examination of every part of the vagina failed to detect any os uteri. At the upper part of the canal, at each pain there was forced down this tight, tense, globular body, of the bulk of the child's head; and conveying the impression of an entire uterus, without orifice. About the spot where the os uteri should have been, *was a minute portion, somewhat thinner than the surrounding parts;* but the whole was uniformly smooth and contained no break whatever." * * * * "Both before and subsequent to her marriage, she (the patient) enjoyed good health; and although, in the necessary duties of her vocation, she has undergone an unusual degree of laborious exertion, still she has not had a day's illness. For two or three days before labor came on, she noticed a rather copious reddish discharge, that continually drained from her; but there was no pain. On the subsidence of this, about the 12th, slight pains in the back were felt, which went on till the night of the 14th, when they assumed a severe and urgent character." * * * * Dr. Ashwell was now called in, "and having, by a careful examination, positively confirmed the statement of the

condition of the parts already made, he determined upon losing no more time in making an artificial opening across the above-named spot, where the globular body seemed slightly thinner than elsewhere." * * * An incision was made, "the liquor amnii of course escaped, and the head fell upon the artificial opening, which proved to be of the diameter of one and a half, or, perhaps, nearly two inches, and about a line in thickness." * * * "Dr. A. left at 1 o'clock, A. M., of the 16th; the pains abated for a brief space after the operation—they, however, recurred—but little advance towards dilatation appeared to be made for some time, till about 4 o'clock, A. M., when, under the influence of a severe pain, the edge of the orifice tore suddenly on the right side, and soon after another rent took place. She now became faint." * * * "After waiting about two hours the pains recurred gradually, and became as powerful as at any previous stage of the labor." * * * "The patient was delivered at 11 o'clock, A. M. The child was still-born, but revived."

On examination, after recovery, it was found that the vagina was unusually short; *there was no cervix uteri;* the scars left by the operation and the rupture were distinctly to be felt; at the extremity of the vagina was the os uteri, in the form of a puckered, irregular orifice.

In this case there was unquestionably congenital malformation of the cervix uteri, which of itself may have had considerable influence in modifying or even producing many of the symptoms in the case, especially if the muscular structure was in any way influenced by the abnormal condition of the neck.

If such were the case, or even if it were not, it is not unreasonable to suppose that the action of the uterus was imperfect. The pains, it seems, were severe and recurred shortly after the operation, but with little advance towards dilatation till about 4 o'clock, from three to six hours or more after the incision was made (we are told that Dr. A. left at 1 o'clock, A. M., but not at what hour the

operation was performed), when a severe pain rent the os uteri extensively and was followed by faintness and exhaustion for two hours, when the pains again recurred, but even then the labor was not completed till 11 o'clock, A. M., 10 or 12 hours at least after the operation. If the pains had been perfect in character, it is scarcely to be supposed that the closure of the labor would have been so long delayed after the incision, and more especially, as we have reason to believe (we are not informed to the contrary) that the patient was anatomically faultless, and that there was no *diseased rigidity* of the uterine fibres.

Was this a case of perfect closure of the os uteri? Mr. Roe found, on examination, a firm, uniform globular mass, but failed, by the most careful search, to detect any os uteri; nevertheless, "about the spot where the os tincæ should have been, was a minute portion somewhat thinner than the surrounding parts."

There can be no reasonable doubt, we imagine, that this *point* was the os tincæ, and that it was a patent one, too; for across this point the incision was made, and from the os tincæ, it was afterwards found, the cicatrices of the incisions radiated. It will be remembered that, for two or three days previous to the accession of the labor, the patient had a pretty "copious reddish discharge" continually draining from her. From what point did this issue? Under ordinary circumstances, we should, of course, say, from the os tincæ. If there was no os tincæ, some other origin must be found; but we leave that point for those to discover who are interested. From the experience derived from the case we have reported, and, with all due deference, from many of the cases we have quoted, we consider it to be a very difficult matter, and one which requires the very nicest sense of touch, to detect in a *tense, wet membrane* a small orifice or slit, and the latter, even, cannot be detected at all times with the sense of sight superadded.

We have already intimated, that it is somewhat puzzling

to understand how, after fully organized closure of the os uteri, an incision made across it should be any more liable to remain open at that precise point than at any other in its course, or why, indeed, there should not be very great danger of its adhering again, at all events. But so far from there happening any such untoward event in this case, Dr. Ashwell informs us that the medical attendants of Mrs. P. have "*in three succeeding labors been compelled to resort to incision*"!! If there be congenital defect in the muscular structure of the cervix uteri, we should be inclined to believe that the necessity for incision is tolerably apparent. We are not told whether, in these three last cases, the uterus was entirely imperforate, as it was in the first; if it were, the os tincæ must have been of a very accommodating character, to remain open till impregnation took place, and then close itself up, probably to prevent abortion and hemorrhage.

The operation of vaginal hysterotomy for occlusion has been performed in this country three times (perhaps more) —twice by Professor Bedford, of New York, and once by Dr. W. H. Reynale, of Buffalo.

The first of Prof. Bedford's cases was reported in the *New York Journal of Medicine* for March, 1843, which I have not at hand, but only a short notice of it, appended to his second case, which is to be found in the *American Journal of Medical Sciences* for April, 1848.

In the first case, the closure was produced by injuries inflicted on the os uteri in an attempt to procure abortion. It was quite evident that the os uteri was obliterated. The child was expelled in ten minutes after the incision was made, affording pretty good evidence that the uterine action was perfect and efficient. Is it possible that the muscular structure of the neck of the womb was injured, by the violence inflicted, to so great a degree as to prevent its action? If such were the case, we should infer that an operation might have been necessary, even although the os tincæ had been pervious.

In Dr. B.'s second case, the labor pains were decided and regular. Dr. Clinton, the attendant, was unable to detect any os uteri. After 14 hours, the pains increasing in violence and becoming expulsive, Prof. Mott was called in, who was also unable to find any os, but supposing that some change might take place, during the night, in the position of the parts, which would enable him to reach it, the patient was left in the care of Dr. C. "He made several examinations during the night, and could feel nothing but a globular, smooth, and uniform surface." Prof. Mott returned in the morning, and again failed to detect the os uteri. The case now assuming a dangerous character, Prof. Bedford was sent for, who, on examination, "could not find the slightest trace of an os tincæ, and became satisfied, after thorough exploration, that it was entirely obliterated."

The patient had now been in labor 40 hours. "Under these circumstances," says Prof. B., "it was proposed to lay the womb open, through the vagina, and, at the request of Drs. Mott and Clinton I proceeded to perform the operation as follows:—with a probe-pointed bistoury, covered," etc., etc., "I made a bilateral section of the neck of the womb," [how is the neck of the womb to be distinguished and identified, when there is nothing to be felt "but a globular, smooth, and uniform surface"?] "extending the incision to within a line or two of the peritoneal cavity. The head of the child was immediately felt through the opening, the pains continued with violence, but there was no progress in the delivery. The *neck* of the womb was exceedingly hard and resisting, and presented to the touch, after the incision, a cartilaginous feel." * * * "At 6 o'clock in the evening, the head had not descended, nor had any impression been made on the opening, although the pains had been severe. I then made an incision through the *posterior lip*" [although not the "slightest trace of an os tincæ" was to be felt!]. A weak solution of tart. emet. was now administered, with a view, if possible, of procuring

relaxation. At two o'clock, A. M., the pains were violent and excessive, but with no change on the head of the child; the incisions were enlarged and new ones made. At 7 o'clock, "the patient being much fatigued, a Dover's powder was given, which procured a comfortable sleep." * * * "At 11 o'clock, A. M., the opening had dilated somewhat, and the head could be more distinctly felt" * * * "there was much heat about the parts, and the scalp was corrugated." * * * At 6 o'clock, Monday evening, "the patient's strength was evidently giving way and her pulse rose to 140." The forceps were now employed, and, after a good deal of trouble, a living child was brought forth, 70 hours after the commencement of the labor and 30 after making the first incision.

Dr. Reynale's case was reported in the *Buffalo Medical Journal*, and copied into the *New York Journal of Medicine* for Nov., 1851. After the labor had continued 28 hours Dr. R. was satisfied that "there was no os nor cervix uteri; everything was perfectly smooth where the natural opening ought to have been, and I could feel," says the Doctor, "the child's head pressing down on the soft parts." Counsel was called. The vaginal speculum was used, and where the os uteri ought to have been a probe was employed, but nothing in the shape of the smallest opening could be found. All agreed that the os and cervix uteri were wanting, and that there was no natural opening for the child to pass through. An incision was made, and in two hours and a half the patient was safely delivered.

In the first of Prof. B.'s cases, we are informed that there was a sufficient amount of mechanical injury to produce entire organic closure of the os uteri. But we confess we should like to know what is the present state of the parts concerned, and especially whether the original os tincæ has, since the operation, remained pervious, or, in other words, whether the lady has since that time become pregnant. We have no doubt but the menstrual fluid might escape through

an artificial opening in the womb; but that a female should become pregnant in that way is rather apocryphal.

In the second case of Prof. B., and in that of Dr. Reynale, there is no evidence of any disease, or inflammatory action of the cervix, that would in any way account for the closure. In Prof. B.'s case there was a rigid state of the neck, but in the other there was not even that.

What is the present state of these cases, and have these females, since the operation, menstruated or become impregnated?*

Is it not a little singular that, in all the cases of *entire occlusion* referred to by Ashwell, including those we have cited, there should be only three in which the closure was produced by any *apparent* disease of the parts concerned?

First.—The case of Mrs. P., in which there was evident congenital malformation, and in which we think there is reasonable doubt of perfect closure.

Second.—A case referred to by Dr. A., which we have not noticed and which is to be found in Gooch's *Lectures on Midwifery*, Phila. ed., page 182. Dr. G. says, "it sometimes happens that women become pregnant, in whom the os uteri has been destroyed by previous disease. A case of this kind was related to me by a gentleman on whose veracity I can rely, in which, after a miscarriage, extreme sloughing of the vagina took place, comprehending the os

* It is, perhaps, worthy of remark, that in no one instance in which an incision has been made in case of supposed perfect closure of the uterus, has there been any certain guide to the exact location of the os tincæ, and the section has therefore been made, as one of the reporters says, "where the os uteri ought to have been." In three of the five cases, the details of which are given by Dr. Ashwell (including Dr. Gooch's case), pregnancy took place after the operation, and a fourth died. In the cases which have occurred in this country, we have not been informed whether pregnancy has taken place or not. The operators in these cases must have been extremely fortunate, to hit the precise point of an obliterated os uteri three times out of five, without any guide. If this were not the case, we must necessarily suppose that the strong organic adhesions of the sides of the opening gave way of their own accord, hus enabling the organ to execute its natural functions in a satisfactory manner.

uteri, in place of which there was only a hard, contracted circle, as if formed by a cicatrix."

It is doubtful whether Dr. Gooch intended this case as an example of complete closure of the opening into the womb. Does he not confine his definition of "os uteri" to the opening into the neck of the womb, so that, if the neck be gone, the os uteri is consequently removed along with it? He speaks of the case as one of pregnancy taking place *after* the os uteri had been *destroyed* by previous disease; and that pregnancy can take place without an opening into the womb is not exactly a supposable case. The case is evidently one in which the muscular structure of the neck of the womb was destroyed previous to impregnation, and hence the necessity for an incision.

Third.—The first case reported by Prof. Bedford is the only one on record, so far as we have been able to discover, in which perfect occlusion has happened as a consequence of any injury or *apparent* inflammatory disease, occurring after conception had taken place.

Has any post-mortem examination ever been made that would show distinctly the fact, that organized adhesion of the entrance into the womb has ever yet taken place in the impregnated state? We have seen none.

We conclude, that although the operation of vaginal hysterotomy is almost entirely devoid of danger when properly performed, and at the proper period, yet it is one that is very seldom required, and that the circumstances calling for it will most frequently be found in diseased or abnormal conditions of the muscular structure of the neck of the womb; for instance, when the muscular structure of the cervix uteri is changed in character, or destroyed by disease or mechanical injury, or when there is congenital defect in it. This idea, we think, will be found to apply as well to cases termed rigidity of the os uteri as to those in which there is supposed to be an entire occlusion. We see no especial difference.

In the present state of our knowledge, and until some

remedy can be found that will equalize the action of the uterus (so to speak) and produce "pains" which shall be both perfect and regular, it is possible that a case may occur in which incision will become necessary, to relieve some obstinate muscular contraction of the os uteri: such incision, however, would not ordinarily regulate the uterine action, and the probable result would be, delivery with the forceps.

ART. V.—*On the High Operation for Stone in the Female.* By W. PARKER, M. D., Professor of Surgery in the College of Physicians and Surgeons, New York.

THE method of practicing lithotomy, by what is called the high or supra-pubic operation, has, since its first introduction into practice, about the middle of the sixteenth century, had strong advocates, and been at various periods frequently, and by some surgeons exclusively, performed. It has never, however, at any time, met with general favor, and as an operation has been considered proper only in certain exceptional cases.

Franco, who first operated in actual practice, did not advise the operation, although his case was successful. Rossuet strongly advocated this method, but never put it to the test of actual experiment. Côme practiced it frequently, and improved upon the methods of his predecessors. It was early introduced into England, and on its revival by Douglass, in 1719, it was practiced with such success by several London surgeons as to gain great favor. Cheselden operated successfully nine times in one season, and, when the high operation fell again into disuse, he remained its firm supporter. He remarks of his success:—"I lost no more than one in seven, which is more than any one else, that I know of, could say; whereas, in the old way (cutting on the gripe), even at Paris, from a fair calculation of above eight hundred patients, it appears that near two in five died." It,

however, fell into complete disuse, though it was advocated subsequently by Carpue, Home, and others.

Of modern authors who have recommended this operation as preferable in general to any other, the most prominent are Dr. Souberbielle and Mr. Carpue. The former published a paper in the *Memoirs of the Royal Academy of Medicine*, Paris, 1840, on the operation of lithotomy, which contained his experience of the high operation. He had then performed it 39 times, and, of this number, 11 proved fatal, being a mortality of 1 in $3\frac{6}{11}$. Although this is a great comparative mortality, much exceeding that which follows the lateral operation, yet it must be considered that many of his cases were of the most unfavorable character, admitting of no other than the operation above the pubes. The opinion of one who has had so large an experience is entitled to great weight. "With certain exceptions, therefore," he says, "depending upon age and peculiar circumstances, I practice the high operation, and my preference for it is founded on reason and experience; indeed, by this method, calculi may always be extracted without reference to their size, their number, their situation, the condition of the prostate, etc.: the operation is less painful than any other mode of cutting into the bladder, and exposes the patient to the fewest casualties. The skin, the linea alba, the cellular tissue, and the bladder, are the only textures implicated in the section; whereas, in the perineum we encounter a variety of structures, which it is difficult to avoid, and the necessary lesion of which may give rise to hemorrhage, stercoraceous fistulæ, infiltration, impotence, etc., none of these dangers are incurred by cutting into the hypogastrium. The history of the post-mortem examinations of those who have sunk after the high operation goes to prove that the operation is never itself a cause of death, but that the fatal event has been the result of previous organic alteration or disposition to disease, whose origin was clearly not referable to the operation, which, indeed, would exercise no other influence upon it than that of hastening its development."

A very complete summary of the high operation is contained in a statistical article by M. Humphry, in the *Transactions of the Provincial Med. and Surg. Assoc.*, Vol. 17, p. 103. Introductory to his tables, he remarks:—"The feeling of surgeons, in this country more particularly, has been of late years very adverse to the high operation of lithotomy; so much so, that I am not aware of its having been performed in England since the unsuccessful attempts which were made in St. George's Hospital, soon after the favorable cases published by Sir Everard Home. That the lateral operation deserves the preference in by far the majority of cases, and that the high operation is to be accepted only as an occasional and disagreeable alternative, I need not stop to prove. The only question is, whether it is to be resorted to under any circumstances." * * The whole number of cases collected was 104, of which 31 were fatal, or less than 1 in 3. The results of this collection are not to be relied upon in estimating the fatality of the operation, for in the majority of instances it was selected, because the lateral operation was not admissible. The only method of estimating accurately the dangers of the operation is evidently where a certain number of cases have been taken indiscriminately. Chelius very justly says:—"If the advantages and disadvantages of cutting for the stone above the pubic *symphysis* have to be critically reviewed, this can only be done from the results which Douglass, Cheselden, Frère Côme, and Souberbielle, have kept, without distinction of the operations performed on a certain number of patients, both men and women, with small and large stones. These results are but little distinguished from those of the lateral operation." In this view the high operation has proved as successful as the lateral. Maund is said to have lost but 5 patients in 40 operations; Côme lost 19 in 100; Cheselden 1 in 7. The principal objections to this operation are the dangers of urinary infiltration, hemorrhage, and wounds of the peritoneum. These accidents, however, are rather due to the method of operating or the carelessness of the operator than to any *necessary*

result of the operation. Urinary infiltration took place but once in the 39 cases reported by Souberbielle; hemorrhage but once in the same number, and this was owing to the idiosyncrasy of the patient; and in but two was the peritoneum wounded, and in neither fatally.

I do not desire from these remarks to appear as an advocate of the high operation for stone in general, but submit them as necessary to a correct appreciation of the comparative results of the operation. From this generally successful issue of the high operation, I have been led to practice it in a certain class of cases, where I deem it preferable to any other. I allude to calculus in the female. Notwithstanding the great number of methods which have been devised for performing this operation, there is as yet no prescribed course which may invariably be followed, to the avoidance of the many disagreeable consequences that often result. The same unsettled opinion has recently been expressed by Mr. Fergusson, in a lecture on *Calculus in the Female, (Med. Times and Gaz.)*. He says:—"A very interesting and important problem remains yet to be solved—which is the best way of extracting a stone from the female bladder? I hope the time may arrive when a true solution will enable the operation to be performed without incurring the hazard or annoyance of an incontinence of urine, which, I am sorry to say, is but too apt to follow an operation involving the female urethra."

The solution of this question, as far as my own experience and practice are concerned, is, that the high operation is the safest method yet pursued. In the two most recent cases in which I have operated for stone in the female, the high operation was followed with the most satisfactory results. In both instances I took the precaution to hook up the walls of the bladder, after being exposed by the incision, before laying it open, and by this means effectually prevented urinary regurgitation and infiltration. I consider this a very important step, and one which ought never to be omitted. The following cases embrace my experience of this operation:

CASE 1.—Mrs. L., æt. 53, married, and the mother of ten children, had always resided in the interior of Ohio, and had invariably enjoyed good health until about four years previously to the time of her coming under my observation. Her first complaint was of suffering in passing water, the symptoms being those of urinary calculus. The physician in attendance had examined the bladder with the sound, and detected the presence of a stone. I was called in consultation, with special reference to the operation. As the patient resided some 80 miles distant from me, and her sufferings were becoming more and more aggravating, there seemed no alternative but the knife.

The stone was large, and I determined to perform the high operation. The operation was commenced by injecting the bladder with warm water. To accomplish this, the patient was placed upon the table in the proper position for lithotomy, and the fluid being slowly injected, an assistant pressed the urethra firmly against the arch of the pubes, to prevent its escape. This preparatory step having been taken, I proceeded to make an incision above the pubes, and extended it two and a half inches along the linea alba, cutting down to the bladder. I now opened the bladder with a pointed bistoury, which was followed by such a regurgitation of fluid through the artificial passage, that the assistant was directed to remove his finger from the urethra, and allow the contents of the bladder to escape. I then introduced the *brise-pierre* of Baron Heurteloupe into the bladder, through the urethra, and separating the blades, I raised the fundus towards the external opening, until I was able to reach it with the tenaculum. With this instrument, and the aid of an assistant, I kept the bladder firmly drawn up to the external opening. The incision not being sufficiently free, was now enlarged, and the finger being introduced, the forceps were readily carried into the bladder, and the stone seized and removed with great ease.

The operation was terminated by closing the upper portion of the wound, and leaving the lower part open to admit

of the free escape of urine, or pus, and thus prevent infiltration. The patient recovered rapidly. The stone was nearly two inches in length, and one and a half in breadth.

CASE 2.—Miss M., æt. 53, living in the country, consulted me for symptoms of calculus, which had existed for the last seven years. On examination, I found a large stone. The urine contained pus, and epithelial scales from the bladder; regarding this organ, however, sufficiently sound for the trial of lithotripsy, I proceeded to prepare her system for this operation, by vegetable diet, demulcent drinks, and attention to the bowels.

The operation was commenced by the usual injection of warm water. I then introduced the lithotripter, and seized the stone, but could not break it by the force of the hand. With the hammer, I succeeded in breaking off about one drachm, in small pieces. These were proved to be oxalate of lime, on applying proper tests. These attempts were repeated up to the ninth day, but with no success; and in the mean time the bladder had become inflamed with considerable constitutional disturbance. She was now kept quiet in bed, as all motion was attended by much pain.

In about three weeks the system became tranquil, and I proceeded to remove the stone by the high operation. The following were the steps of the operation which I performed:

First.—The patient was put fully under the influence of chloroform.

Secondly.—The bladder was injected with flax-seed tea, and owing to the system being under the influence of the anesthetic, the injection was introduced without any resistance, and the organ well filled.

Thirdly.—An assistant prevented the escape of the fluid, by pressing the urethra against the pubic arch.

Fourthly.—The pubes being well shaved, I made an incision along the linea alba, through the fat and muscles, until I reached the bladder.

Fifthly.—I now hooked strongly through the bladder, by large tenacula, and gave them in charge of assistants. I

then punctured the bladder with a pointed bistoury, and made an incision about one and a half inches in length. No regurgitation took place. Upon my finger I introduced the ordinary nasal polypous forceps, and easily removed the stone.

Sixthly.—The assistant now removed his finger from the urethra, the fluid escaped, and the hooks were removed.

The upper part of the wound was closed with a suture and straps, the lower portion being left open for the escape of any discharge. The operation was performed on the 12th of October, 1853, and on the 22d she was able to sit up. The result was very satisfactory.

CASE 3.—Patient was Mrs. E., æt. 47, a widow. This lady had suffered from a stone in the bladder, until she could hardly move about; and at the time she came under my observation, her sufferings were intense. The urine was alkaline, and loaded with pus and blood.

I ascertained that I could do nothing with the lithotripter, and accordingly advised an operation as the only hope of relief. She at length made up her mind to submit to the operation, and sent for me for the purpose of having it performed.

On the 25th of August, 1854, I operated according to the plan laid down in the preceding case, and notwithstanding the amount of disease of the bladder, the patient improved greatly, and three months after she was comfortable, but had a slight opening above the pubes, from which pus, at times, escaped.

ART. VI.—*An Analysis of the Symptoms of twenty-one cases of Meningitis in the adult.* By J. LEWIS SMITH, M. D., Physician to the Northwestern Dispensary, New York.

PERHAPS there is no inflammatory disease so vaguely written upon, or so little understood, as inflammation of the arachnoid and pia mater. This arises chiefly from the fact that this inflammation usually coëxists with that of the dura

mater, or cerebral substance, or with disease elsewhere, modifying and obscuring its symptoms, and, perhaps, changing its course.

My purpose, in this paper, is to determine whether the books give a correct account of this disease, and to this end I have collated, as far as possible, records of primary meningitis, and secondary, where the primary disease seemed so mild as not to produce any material modification in the patient's condition.

My investigations have been restricted to adults, from the reflection that in them the symptoms may be different from those in childhood; and in order to avoid those numerous cases of acute hydrocephalus, which is especially a disease of early life.

The whole number in my collection is only twenty-one, as, for various reasons, I have rejected most of the recorded cases of this disease. Of those published in Abercrombie's celebrated treatise, I employ only one; the rest, with the exception of a lady, in whom the disease was combined with inflammation of the ear, being either children, or else showing, after death, merely a vascular condition of the membranes. Vascularity, with or without serous effusion, may indicate, it seems to me, simply a state of congestion; and I find that Dr. Watson, of London, objects to these cases of Abercrombie, on this ground.

The French writers, as Andral, give minute records of meningitis, but most of the cases published by them present such complications, that I have not dared to use them.

Records where the patients recovered, and several such are found in the journals, have also been rejected, in the belief that we cannot yet make a positive diagnosis of meningeal inflammation from the symptoms. Only such cases have been employed as showed after death a lymphy deposit on or under the membranes.

Before proceeding to the analysis, a word should be said of the so-called cerebro-spinal meningitis, an epidemic disease, which has prevailed in various parts of Europe, as

Gibraltar and Strasburg, and in our own country. The pathology of this disease is not yet understood,—some considering it a local, others a constitutional affection; and there has been a corresponding discrepancy in the treatment. Whatever may be its nature, it is evidently very distinct from the sporadic inflammation, and cannot properly be considered with it.

In nine of the twenty-one cases, the cause of the disease was not apparent. Perhaps, in some of these, a more minute autopsy would have discovered a morbid process, to which the inflammation was secondary; for the best pathologists agree that secondary meningitis is more common than primary. If, in any of them, such disease were present, it was no doubt mild, to have escaped detection. Five had tubercles in the membranes, in the midst of the inflamed surface, and in four there were tubercles in the lungs, and not elsewhere. Meningeal inflammation has been frequently noticed to accompany phthisis; and as post-mortem examinations often reveal the inflammation, without the presence of tubercles to excite it, the tubercular *diathesis* has been properly called the cause of the meningeal disease. When tubercles are found on the membranes, they, no doubt, in some instances are deposited during the inflammation, just as pneumonia may cause the first tubercular deposition to take place in the central or lower part of the lung, instead of its usual seat, the apex.

In one case, the meningitis seemed to arise from erysipelas of the neck and scalp, in one from intemperance, and in one from reaction after profuse hemorrhage. From the records, it does not appear that the primary and secondary forms differed in any important particular. On the average, the symptoms, both in kind and intensity, seem to have been about the same.

Determining the duration of the disease has been somewhat difficult; but dating from the commencement of well-marked cerebral symptoms, as headaches or delirium, I find, in fifteen cases, the period to vary from one to thirty-three

days, with an average of fifteen. In one other case, the time seems pretty accurately fixed at three and a half months, including an interval of improvement.

Symptoms.—Headache was one of the most common, generally severe, but sometimes slight. It is recorded in fourteen cases, in all of which it began the first day, and continued till the patients sank into delirium or coma. In no case is its absence recorded.

One only had convulsions. This man was a soldier in the French army at the time of its retreat from Moscow, subsequently to which he was subject to epileptic attacks. An autopsy of all the viscera showed no disease except the meningitis.

How the opinion has become so prevalent, that inflammation of the meninges gives rise to convulsions I do not know, but presume it is because this disease is most common in childhood, and convulsions usually attend this as well as other encephalic diseases in early life. Perhaps English and American physicians have derived their knowledge of diseases of the brain and membranes more from Abercrombie's treatise than any other source; and, as we have said, nearly all the cases in his collection were children. He gives the opinion that "the more common form in which the attack takes place, is by a sudden and long-continued paroxysm of convulsions," alluding to an attack of meningitis. On the contrary, our analysis clearly shows that convulsions are not a symptom of this disease except in childhood, and this correction should be made in our standard works.

A rigid and flexed state of the upper extremities was present in one case, in one trismus, in another paralysis of one side of the face, in another of an arm, and in four of an entire side.

Delirium was noticed in fourteen cases; in three coming on in the commencement of the disease, in the others not till near the close of life. It is not stated whether the remaining seven were delirious, so that if this symptom were present, it was probably of the passive kind.

Vomiting, so common in the acute hydrocephalus of childhood, occurred in only six cases, and in these, with one exception, not till the disease was well advanced.

The pupil in six cases was dilated during the comatose state, and in two others, before the development of coma, it was contracted, the condition during coma not being mentioned. Besides these, four exhibited some unnatural appearance of the eye, as strabismus, occurring, probably, from effusion. In the remaining cases the condition of this organ is not recorded. In one instance where the pupils were dilated, thirty leeches were applied to the neck, and while the bites were still bleeding contraction took place. This goes to show that simple congestion may cause dilation, which may not, therefore, be always so grave a symptom as is usually thought.

Retention of urine was present in six cases, and incontinence in one.

The pulse in seven was under eighty till near the close of life. Of these, three were phthisical, two had headache for two years, and one for life, one had had pain for a considerable time in the lumbar region, the cause not being apparent, and in the other the inflammation appeared to be primary. Three had a pulse varying from 80 to 100, two were phthisical, in the other the inflammation was primary. Three had a pulse over 100, of whom two were consumptives. The thought may occur, whether this discrepancy in the condition of the pulse may not have been due to compression from the effused fluid. A compressed state of the brain will, in many instances, prevent acceleration of the pulse, though the inflammation is intense. But this explanation does not answer, for the symptoms of compression were generally absent till near the close of life. It is better to consider this diversity due to a difference in the grade of inflammation, as is the case in the inflammation of other serous membranes.

The mode of death in sixteen cases is given, in all by coma, varying from a few hours to two or three days. Ge-

nerally the effusion of serum and lymph seemed sufficient to cause the coma.

The seat of inflammation in seven cases was the base of the brain, in four the convexity of one hemisphere, in three the upper surface of both, and in two the entire meninges. In the remaining cases the seat of disease was not recorded accurately, though the deposit showed undoubted inflammation.

From this analysis the following conclusions may be drawn:—

1st. That a common cause of meningitis is the tubercular diathesis.

2d. That if in any of these cases the inflammation was primary, and not dependent on a diathesis, it did not differ materially from the secondary form either in gravity or duration.

3d. That meningitis usually commences with headache.

4th. That convulsions are not a symptom of it.

5th. That delirium is present in the majority of cases, occasionally early, but generally not till the disease is far advanced.

6th. Vomiting does not occur till a late stage of the inflammation, and then in only a moderate number of cases.

7th. The pulse differs in different cases, and is, therefore, the less reliable as a means of diagnosis.

8th. Paralysis sometimes occurs at a late stage of the disease, but generally there is no contraction or rigidity of the limbs.

9th. That the mode of death is by coma. It is not our object to speak of the treatment, as all the cases were fatal, and in no instance did the remedies differ materially from those recommended in the books.

Art. VII.—*Remarks on the Diseases of Oneida County, N. Y., in* 1854. (Read before the Oneida County Medical Society.) By John McCall, M. D., of Utica, N. Y.

The last season was one of deep and abiding interest to our profession, and the great community generally, from the fact that the heat and drouth of the last summer exceeded in those particulars all former seasons, as far as my memory serves me.

The diseases which fell under my observation and care, were, in some respects, unlike those of former seasons. This was true of fevers and bowel complaints. In all cases there was manifestly more loss of physical and mental power than usual, even with those persons who fortunately escaped sickness; and this was especially true in the cases of illness which came under my care.

Early in the season we met with sundry instances of mild forms of fever, remittent and intermittent, requiring, or at least receiving from me, but little medication, especially of the active or heroical character.

Bleeding, vomiting, or "catharticising" the bowels, in the language of a former "heroic member of the trade," were not used or advised by me; nor was bleeding resorted to in a single instance.

And here let me caution you not to be surprised, when I assure you that I have not bled a patient from the arm during the last fourteen years; and rarely have I leeched or cupped during that time.

In the treatment and management of diarrhœa, dysentery, cholera morbus, and cholera infantum, I have less to say than may be expected of me. In truth, I have but little to communicate on that subject. I relied much on confining my patients at once to their beds. There I often bound them down, if I may use the term, as if they were insane, and required strait-jackets, and in no instance allowed them to be up until their complaints became cured. Bathing, cleanliness, and pure air, with a rigid system of diet,

just sufficient to sustain the vital forces, were pursued in all cases; medicines in small doses, administered at long intervals, constituted the chief means of treatment.

In several severe cases of dysentery, cholera morbus, and cholera infantum, recoveries took place unexpectedly among old and enfeebled persons, as well as in young and delicate children.

A few of these cases gave me much solicitude and apprehension. I can only say I have never been so fortunate in any one year of my practice; for, as strange as it may seem, I have lost only two patients, both of whom died of pulmonary consumption. One was a young lady who had fallen into my hands only a short time before her death, and who had been an invalid some time before that event. The other was a man of intemperate habits, who sent for me only a few weeks before his death.

This experience of good fortune is stated, not as evidence of superior skill or success, but simply of good luck.

In a few instances, I had from one to two or three members in the same family sick with a grave form of typhus fever. These cases occurred in June, July, August, and September.

The first case in one of these families was that of a young man, a member of the bar, who had never before sickened with that or any other form of fever. He came down suddenly and severely on the 27th June, with great loss of muscular and nervous power, and more or less delirium, almost from the first visit I made him. This was a case of typhus fever of the worst form, as I regarded it; as evidence of severe lesion of the brain and nervous system, there was bleeding from the nose and bowels, great embarrassment of respiration, pulse exceedingly compressible, and ranging from 125 to 135 in the minute; tremulousness of the hands, low muttering, delirium, picking the bed clothing, and indistinct and difficult articulation, so much so, at times, that

his father could rarely or hardly understand him. His illness continued thirty-four days. My friend, Dr. Dering, attended this case with me, and gave me much valuable counsel. His mother, and a few others of the family, afterwards came down with the same disease. Those who fell sick in the same house all recovered; but some three or four others of the family sickened afterwards with the same fever in Long Island, after returning there to their home by my advice. These, too, recovered, but a maiden lady, an aunt to the young man whose case I have detailed, and two of the colored members of the family residing upon the Island, sickened and died of the same fever.

One of the patients, who fell sick in the same house here, soon after the mother of the young man came down, with the same disease, was an Irish girl, at service. She remained some eight days speechless, and immovable as a block, with stiffened limbs, lying always on her back, the urine and fæces passing off involuntarily, or, rather, unconsciously. Some portion of the time she was unable to swallow even water. She, however, slowly recovered in about four weeks. Her breathing was less embarrassed than in some of the other cases, and I took care not to disturb it with too frequent or liberal means of medication. In this I acted in accordance with the advice of an old medical friend, who jocosely said that his patients all died "because they would not breathe." This may, perhaps, be a new pathological revelation to some of us.

It may be asked, what medicines I used in these cases? I answer, none worthy of notice; for I allowed the *vis medicatrix naturæ* to do the work of recovery, only now and then aiding her with courage and patience. Mine was a course of non-medication, in the view of some members who have more faith than I have in their necessity or efficacy.

Really I cannot say any thing satisfactory to such members in favor of my practice. I must say, however, that I

gave no cathartics, and only in a few instances advised an emetic.

Wine, sparingly administered, with other supporting means, were used in most of the cases; and I am of the opinion that my system of tee-totalism would hardly have saved them from sinking.

We are obtaining new revelations, every now and then, as we examine honestly and carefully the great volume of Nature. We may be said to be "born again" every few years; and a medical man, I think, is not fully born and grown up to full manhood, philosophically and medically considered, until he attains the age of fifty. Medical, like political bigots and fanatics, have but one birth, and that often premature and fruitless. Now, the more I see of the human economy, in health and disease, the more highly I appreciate its restorative powers. And if I have obtained any share of success in my management of diseases, I am free to give her the credit, and only claim the merit of having had some wisdom, in thus trusting and simply aiding her when she required assistance.

It may be expected that I should say something of the much dreaded cholera; but, as I had no well-marked cases of that disease, or if I had, my inexperience, or the recovery of my patients, would not allow me to give them that name, I have, therefore, little or nothing to communicate in relation to that matter. Possibly I may have forgotten some of the true characters of that disease since its appearance in our city in 1832, when I was its Health Officer. As I saw none of the cases in which it is said, and no doubt truly, to have occurred in our city, I cannot say a word as to their character, or means of treatment.

In conclusion, let me remark that we are assembled where the first meeting of our Society took place, in July, 1806, nearly 49 years ago, just after the passage of the first important legislative enactment regulating, in our State, the practice of Physic and Surgery.

The names of members who convened on that occasion are found in our book of minutes.*

Who now of that number remain in our "rank and file"? Half a century cuts down a whole generation. Where will be found the three, now marching onward through the journey of life, in 1860? Gone to their long home!

But these are sad thoughts, and I turn from the subject to express a hope that we will continue to exert ourselves as an association of brothers, and labor, for the future, more earnestly for the good of our race, and the honor and usefulness of our noble profession.

ART. VIII.—*On the Cause, Nature, Cure, and Prevention of Epidemic Cholera.* By M. L. KNAPP, M. D., late Professor of Materia Medica, and President of the College of Physicians and Surgeons of the University of Iowa; late Professor of Obstetrics and Diseases of Women and Children, in Rush Medical College; Author of "Lectures on the Science of Life Insurance," etc., etc.

[Continued from page 111.]

THE topography of Pittsburgh is such that the extremest impressions of heat and cold must, inevitably, rest on the city proper. Other things being equal, therefore, Cholera should break out there before either in Birmingham or Alleghany City. The city proper, lying in the forks of the Alleghany and Monongahela rivers, is of the shape of an obtuse heater, or spread fan, with the point southwest. The surface rises to hills, soon, northeastwardly, so that the sun's rays at 2 o'clock, P. M., are direct upon the face of the city. Underneath the hills skirting either river is a narrow strip of low ground, and the

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* The names marked thus * are all whom I know to be living, though I believe ALEXANDER WHALEY is of that number.

AMOS G. HULL, SEWALL HOPKINS, DAVID HASBROUCK, *SETH HASTINGS, JR., CALEB SAMPSON, FRANCIS GUITEAU, MATTHEW BROWN, JR., WELCOME SAYLES, ELNATHAN JUDD, SHEARMAN BARTHOLOMEW, MARCUS HITCHCOCK, ISAAC WESTON, THOMAS HARTURLE, *LAURENS HULL, ZENAS HUTCHESON, ALEXANDER WHALEY, MORRIS SHANNON, PAUL HUTCHESON, JR., ELIPHAZ BISSELL, SETH CAPRON, DANIEL AREY, JOHN FITCH, ENOCH ALDEN, STEPHEN PRESTON, *ARBA BLAIR, THOMAS G. HOOKER, NORTON PORTER, SETH HASTINGS, SAMUEL FRISBEE.

strip along the Alleghany, bounding the city on the west, constitutes the fifth ward, and is exposed to the direct rays of the whole afternoon sun and reflection from the cut and quarried hills back of it, heating it like an oven. This ward is populated wholly by the poorer classes and operatives in the iron manufactories. The Cholera was ten to one the most severe and fatal in this ward. Still it raged on the high grounds of the city also, which lack not for direct insolation, and are most reduced in temperature by upward radiation and cooling breezes at night. Alleghany City and also Birmingham are more protected by the hills from the direct rays of the sun than Pittsburgh, and Alleghany City in particular appears to enjoy a further advantage, in its better adaptation to the culture of vegetables and fruits.

Having ascribed the general prevalence of Cholera this season to the exorbitant prices of provisions, I will here present the prices of the Pittsburgh Market, furnished me by Mr. C——, proprietor of the Monongahela House. "Beef, 11 cents per pound; mutton, 8 cents per pound; lamb, 75 cents per quarter; chickens, 31 to 50 cents per pair; butter, 45 to 75 cents per pound; eggs, 14 to 20 cents per dozen; Irish potatoes, $2 50 to $3 00 per bushel; sweet, or Carolina potatoes, $2 50 per bushel; tomatos, all very bad, $1 50 to $2 00 per bushel; corn (roasting ears), 25 cents per dozen; onions, $1 25 per bushel; turnips, none in market; apples, $1 50 per bushel. Large quantities of diseased potatoes were sold in market just before the breaking out of Cholera, at $1 25 per bushel. Vegetables generally have been poor."

I visited the Markets on the morning of the 26th, and passed through two large and commodious Houses, well supplied with choice meats, but not a potato, turnip, tomato, or other succulent vegetable, apple, peach, or other fruit of any description whatever, on sale or to be seen at either Market! This is a more forcible commentary on the power and influence of medical opinion for evil than could have been anticipated. It shows very clearly that the prohibition of vegetables and fruits has not been over-estimated by the writer as an unfortunate blunder of the Profession, protracting and aggravating every epidemic visitation of the disease.

Case 1.—Monday, September 25, 9 o'clock, A. M., through the courtesy of the Board of Health, visited, with Dr. ———, a middle-aged German woman in the fifth ward, in the collapsed stage of Cholera, the patient speechless, pulseless, senseless, and cold as in death. The case had had no treatment. On examining the mouth, the objective signs of scorbutus were found most unequivocally manifest in

a puffy and livid condition of the gums, pale flabby tongue, especially towards the edges, which bore the impressions of the teeth. This was considered a hopeless case, but the punch, with quinine and morphine added, was prescribed, as the patient was not past swallowing. The case terminated fatally in a few hours, and was only instructive as affording testimony of the presence of the scorbutic diathesis in the patient.

On examination of the other members of this family, six in number, all showed the objective signs of scurvy in different degrees, by the crimson line along the dental margin of their gums, tongues furred centrally, and pale and smooth laterally, paleness of countenance, inertia of feelings, despondency and dejection of spirits. One suckling woman, in particular, exhibited the signs of the scorbutic diathesis most prominently of all. They were enjoined to drink punch daily, and to make a free use of vegetables and fruits in their dietary.

CASE 2.—Mrs. O'Connell, a young married Irish woman, living in Miltenberger's Alley, was visited at half-past 9 o'clock, A. M. She had had a diarrhœa of two days' standing, which she described as being of characteristic rice-water appearance, and frequent—had vomited a few times only since having thrown off from the stomach, at about 1 o'clock at night, the meats she had eaten for her supper, in a sour, undigested state. Her constitution seemed unimpaired. She was sitting up, but complained of sinking, and great weakness. The pulse was feeble, the skin cool and dry, and the countenance pale.

On looking into this patient's mouth, the most perfectly displayed *early* characteristic signs of scorbutus presented, that it has ever fallen to my lot to witness. The mucous membrane of the entire mouth was pale, the tongue furred centrally, and pale and smooth laterally, the gums *pale* and *contracted*, save and except the most vivid *crimson*, I should say almost *vermilion line*, of less than the sixteenth of an inch in breadth, ornamented their dental margin, inside and out, festooned around every tooth, and the teeth all perfect in each jaw. These characteristic signs of the scorbutic diathesis were examined by Dr. ——, who visited the case with me. The following prescription was made:

℞.—Acid. cit. ʒi.
Quinæ Disulph. gr. v.
Morphiæ Sulph. gr. j.
Spt. Vin. Gal. ℥ iv.
Sacch. Alb. ℥ i.
Aquæ. Oij. m. f. sol.

S. Take a wineglassful every fifteen or twenty minutes, according to the urgency of the diarrhœa and vomiting.

The patient was ordered to keep her bed, and to have a pot of soup made by boiling a cut of fresh beef-steak, potatos, turnips, onions, carrots, etc., together, flavored with savory herbs, and well seasoned with salt and cayenne pepper. This to be partaken of freely, and as hot as it could be supped, at the earliest moment it could be prepared. At 12 o'clock, M., the patient was visited again: she had followed directions, had taken the medicine several times, and supped a small bowl of soup. All disposition to vomit had ceased—the diarrhœa was much less urgent, and although no reaction was yet apparent, it was evident the case was doing well. Medicine and soup to be continued. At 2 o'clock, P. M., saw the patient again, and found her in a gentle glow; the skin soft and moist, the pulse full, the diarrhœa entirely checked, and feelings of perfect ease and general comfort were manifested by the patient.

At 9 o'clock on the following morning visited the the patient again, in company with the physician in ordinary, and found her up and making her bed, feeling well. She expressed the greatest joy in being allowed the free use of vegetables and fruits. On examining the mouth, the crimson line at the margin of the gums was greatly faded. The husband and an unmarried sister of the patient exhibited none of the objective signs of scorbutus.

Case 3.—Passing up Smithfield street, saw a young man in an alley vomiting. Took him to the office of the Board of Health near, and examined his mouth with Dr. ——; find it in a very scorbutic state—tongue furrowed centrally, pale laterally, and *the gums puffy and livid all over.* He has had diarrhœa two days, and has taken two or three glasses of brandy this morning to check it—is partially inebriated. He refuses to take medicine if prescribed, finally consents to take a glass of soda water and suck a lemon. This case not seen afterward, and is only presented as disclosing the objective signs of scurvy in cholerine.

On the morning of the 26th, I repaired to the Mercy Hospital, bearing a note from the Rt. Rev. Dr. ——, desiring that I might be facilitated in making medical investigations in the Institution. Every facility was thus obtained, and marked civilities shown me by the Sisters of Mercy, and the visiting physician, (no resident physician then in the Hospital) who arrived soon, and went his morning round, giving me a hurried history of the cases in the Cholera ward, and leaving me to investigate them at my leisure. My views of the nature of Cholera

were briefly explained to the physician before he left the house, with the request that he would make observations, and test the value of antiscorbutic treatment. Five consecutive hours were then spent in examining the following cases, comprising *all* the Cholera patients in the Hospital under treatment, and one in the convalescent ward. All the cases were admitted under fully developed Cholera, bordering on, if not in collapse, as per the testimony of the physician.

CASE 4.—Cornelius Shanahan, aged 20, admitted a week since, now convalescent, mercurial odor present—the gums are spongy, swollen, and livid all over—petechiæ, in the early or efflorescent stage, sparsely scattered over the sides of the neck and arms—skin on the outer sides of the arms and legs, and also the palms of the hands, covered with white furfuraceous scurf—the lividity and swollen condition of the gums far exceed that which should result from the slight ptyalism present—no salivation or spitting—patient says he has eaten little or no vegetable food this season.

CASE 5.—Mrs. Mary McStay, aged 28, has an infant at the breast, attacked two days since, admitted yesterday—four cases of Cholera occurred in the house where she boarded—thinks there was a reasonable supply of vegetable food—dejections not watery or copious, and no vomiting—patient not emaciated—not much Cholera aspect in this case—no mercurial odor. It should be observed that the treatment of the Cholera cases is routine—all the patients are put under the administration of two grains of calomel, combined with opium, quinine, and capsicum, every two hours, or until vomiting and purging cease. Of course the appearances in this patient's mouth are not modified by the effects of mercury, having been less than one day under treatment. On inspecting the mouth, I find the tongue coated with yellowish-white fur, and the sides red and granular-looking, or rough—there is an intensely red line along the dental margin of the gums, and they are beginning to assume a red and softened appearance all over—no petechiæ or abnormal appearances on the skin. A bilious-cholera-scurvy case, lactation aiding its development, and a panic bringing it forth too soon.

CASE 6.—Louisa Hines, aged 17, admitted a week since—is from the County Jail; which, it appears, is made use of as a Penitentiary, *alias*, House of Starvation, where she had been confined three months on bread and water, and soup twice a week, the Jail fare—no potatoes, turnips, cabbages, or other vegetables, nor fruits of any description allowed! The cholera, of course, broke out in this prison, and a general jail delivery ensued. Many of the cases came to the Mercy

Hospital, and Louisa is one of three only that remain alive! The prison is certainly a disgrace to the City, County, and State. The constitution of this patient is sound—the skin is normal, and, save paleness of countenance, and the *scorbutic crimson line* tied around the teeth, this patient appears, otherwise, all right. There is no ptyalism or mercurial odor—the gums are *pale and contracted*, except at their dental margins, and the mucous membrane of the mouth generally is very pale. These appearances are *pathognomonic* of scurvy.

Case 7.—Mary Anne Groff, an old German woman, but a few weeks in America—husband and son have died of cholera in this epidemic. This old lady has only two teeth in her mouth, her system is not in the least affected by mercury, but the gums surrounding her two teeth are puffed up fully a quarter of an inch thick—the rim of the edentulous gums is normal—the tongue is furred on the centre of the dorsum, and very pale and flabby laterally—skin dry and scurfy—red petechiæ on both legs, and discolorations of fading purpura all over the calves—many minute red petechiæ on arms, and sking enerally.

Case 8.—Mrs. Myers, aged 45, a butcher's wife—husband has had Cholera, and is now in the convalescent ward. This patient is corpulent (as a butcher's wife should be), and insensible from congestion of the brain—under treatment six days—no ptyalism or mercurial odor—gums swollen and puffed up half as thick as my finger, and livid as a piece of liver—skin all over the body, especially limbs and back, besprinkled and bespattered with petechiæ, and bloody chops, which ramify extensively in zigzag bundles and fantastic spangles and clusters, interspersed with large ecchymoses or patches of purpura. In numerous places the blood has oozed through the chops or cracks, and can be scratched off with the nail in the form of dried blood-scabs. The purpura patches, or ecchymoses, on this patient's legs, are as large as my hand, and of bacon-rind or mummified appearance. Here is scurvy in a fat subject produced by meat eating; and when the serum of the blood was leaking through the chops in the mucous tissue of the stomach and bowels, and being vomited and purged off, it was a case of Cholera.

Case 9.—Isabella Merritt, aged 25—the dietary of this patient has been bread, meat, and coffee, generally—seldom eats any vegetables—has had excessive palpitation of the heart and weakness for a year—has not eaten any vegetables or fruits of any description for more than three months past, except cabbage on two occasions—breath betrays the mercurial odor, and her mouth generally, and swollen, livid gums,

in particular, give indubitable evidence of the scorbutic diathesis—no petechiæ.

CASE 10.—Mary Ellen Daily, aged 25—admitted three days since—has had diarrhœa since early in August—mucous membrane of the mouth chopped and excoriated in patches—gums display the crimson line along the dental margin, but are not yet puffy—recent petechiæ of every size, from mustard seed to buck shot, are scattered over limbs, face, and body—the petechiæ are perfectly round, not raised or papillated, and not capable of being felt by the touch—they are pale crimson, disappear under pressure of the finger, and return instantly on removal of the pressure—no mercurial odor of the breath—tongue getting dry, with tendency to coma, or typhoid symptoms.

CASE 11.—Edward McDowell, aged 28—admitted a week since—is from the jail—was an inmate of the prison fourteen months—has had diarrhœa since February—dietary of the prison, bread and water, and soup twice a week, Wednesdays and Saturdays, but patient seldom partook of the soup, finding it produced an aggravation of the diarrhœa—an affection of the heart came on after being in the jail five months, which has troubled him greatly ever since—has had great irritation of the throat since February—has picked out five or six of his teeth since April with his fingers—mouth displays the objective signs of scurvy in an eminent degree—there is great pallor of countenance and a universally anæmic appearance—there are numerous petechiæ on the skin, and the back is mottled with walnut-colored marks of desquamated bullæ of the size of buck shot and rifle balls, too numerous to count, the epidermis hanging to some of them. In June and July the patient had bloody discharges from the bowels, in May and June vertigo and palpitation were most distressing. The authorities by which the Pittsburgh jail is upheld are entitled to a premium for this, the "best" case of Cholera seen.

CASE 12.—James Hall, aged 20—admitted two days since—has worked all summer in a brick-yard—has had no potatoes or turnips at all for four weeks, and none, indeed, worth mentioning for four months—pork and beef, and bread and coffee have constituted his dietary. Skin dry, scurfy, scaly or furfuraceous, particularly on the extremities—gums very much puffed up or swelled, and livid as liver—tongue clean and flabby—countenance pale—no petechiæ to be seen on legs or arms, back not examined—no odor of salivation—sound, with the exception of scurvy.

CASE 13.—Wm. Campbell, of middle age—admitted on yesterday—insensible from congestion of brain and I can gain no informa-

tion as to his mode of life—gums very red and swollen—petechiæ in their red stage sparsely scattered over the limbs and body—no Cholera symptoms present—moaning and jactitation and deep sighing—eyes inflamed—face red—has probably been a hard drinker.

Case 14.—John Tammany, aged 28—admitted three days since—has had an ague this (Tuesday) morning, and is now in the sweating stage—no Cholera symptoms present—has worked in an iron furnace in Ohio, this season, where all around him had ague and fever—came to Pittsburgh a week since, but had not had a chill for four weeks—wrought one day in Pittsburgh, and on the next day, which was Saturday last, was taken with a chill and vomiting and purging, and was brought to the hospital—says he had good diet in Ohio, meat and potatoes, etc., but not much vegetable food during May, June, and July—in July sickened of bilious fever—has had an extensive and troublesome eruption of sores all over his legs, which leaves the skin marbled, and of a dark chocolate or slate color wherever there has been a sore—a cicatrix of large size on one leg, is dark walnut color, or bacon-rind appearance—there are a few petechiæ or flea-bite specks sparsely scattered over his arms, say a dozen on each, well marked—the gums are swollen and livid all over—countenance very pale—no mercurial odor—the objective signs of scorbutus, and the symptoms of a quartan ague are all the morbid phenomena that are left of this case of Cholera.

Case 15.—Thomas Clennin, aged 30—admitted two days since, or on Sunday—felt sick on Saturday while traveling on foot from Washington, Pa.,—thinks he has eaten of new potatoes a few times since they came in, but for five months has lived on ham, eggs, beef, bread and coffee—mercurial odor in his breath—has lost most of his teeth and also his palate, which he says occurred five years ago from medical treatment in Baltimore; under mercurial salivation his teeth came out and his palate sloughed off! The gums surrounding the teeth that remain in this patient's jaws are very puffy and livid—tongue pale and flabby—no petechiæ are visible on arms or legs, back not inspected. A very much broken-down subject—doubtless had scurvy when he suffered the loss of his teeth and palate—says he never had the venereal disease—scurvy and mercury are all that ail him now.

Case 16.—James T. Parsons, aged 32—admitted a week since—came from the jail—was three months there—mouth modified by treatment—tongue red and clean—gums very much swollen and livid and blood oozes from their dental margins on slight pressure of the finger—breath fœtid, but odor not mercurial—numerous crimson

colored petechiæ are scattered over his face, neck and arms, and some of them are papillated to the touch—large blotches of purpura on the arms.

CASE 17.—John Donohue, of middle age—admitted on Friday last—choleraic symptoms mild from the first, and soon disappeared—at present there is a universally icteric state—tongue furred in the centre and pale laterally—gums very red and puffy—no mercurial odor—no petechiæ on arms or legs—back not inspected. Jaundice and scurvy are all that are visible, and the former is not more characterized by the pathognomony of the skin, than the latter of the gums.

CASE 18.—George Brandstatter, a German immigrant of about 50 years of age, just arrived in this country—admitted on yesterday—objective signs of scurvy very prominent in this patient's mouth, as seen in the livid spongy gums, and pale flabby tongue—no petechiæ on arms or legs, back not inspected. This patient is vomiting and purging still, and is sinking rapidly into the stage of collapse—would be gratified to put him under the administration of the hot punch and hot soups, or the rational treatment, to staunch the hemorrhage and afford materials for new and healthy blood, but cannot interfere.

I must here pay a merited tribute to the Choir Sisters who officiate in this hospital. One or other of the three, all evidencing the highest order of intelligence, insists on accompanying me at the bed of every patient, to give the history of the cases, uncover the limbs and back for inspection, and in every way facilitate my investigations. In some instances, as with this patient, it would be impossible to effect my object without this kind assistance, so fearlessly rendered over these repulsive cases.

CASE 19.—John Wheely, aged 21—a German immigrant just arrived—admitted on yesterday—still vomiting and purging—gums very red and puffy all over—tongue furred centrally and pale laterally—no petechiæ discernible.

CASE 20.—C. J. Smith, a young man from New York—admitted over a week since—he is now in the convalescent ward, having surmounted the hemorrhagic tendency of the disease that gives rise to vomiting and purging, yet is in no other sense cured—his gums are frightfully abnormal in appearance—look as if beaten and bruised and puffed up from the injury—the tongue is clean and red, the mouth throughout modified by treatment—general appearance very anæmic. The dietary allowed the convalescents is milk and bread, and soups, with rice, but without succulent vegetables. This young man came to Pittsburgh about two months since, and has hardly partaken of any

succulent vegetable food since he arrived here. Several other convalescent Cholera patients whom I have examined in this ward, exhibit the same objective signs of scorbutus in an eminent degree, and their history prior to admission discloses the same absence of succulent vegetable food in their dietary. It is unnecessary to detail these cases.

The analysis of twenty cases of Cholera, then, discloses the fact, that every case was a case of scurvy, not a solitary exception, in, or out of the hospital, comprising *all* seen. This is a remarkable announcement; nevertheless, remarkable as it may seem, every word of it is truth. Had not the physical evidences of scurvy been present in *every* case, I should have marveled. The appearances which I have described will be found in all cases of true Cholera, and will henceforth be noticed by all practitioners in all parts of the world. Why they have been so long overlooked, why they should have escaped my observation heretofore, *generally*, and, where noticed in 1849 and '50, a complication of diseases only should have been inferred, is a matter of as much astonishment to me as it can possibly be to others: but such are the facts. Why I have now been made the humble instrument of explaining the matter, is doubtless due to circumstances rather than to extraordinary penetration, or superior professional attainments. It has been a hard and difficult task to divest my mind of the false notion of some specific, poisonous influence, *overlaying* scurvy, even since I have been fully aware of the scorbutic diathesis *underlaying* Cholera. It may be difficult for others, even yet, to see clearly: but if, as appears by our analysis, every case of Cholera occurs in a scorbutic subject, or in other words, that Cholera is a messenger of death riding *always* on the time-honored steed scorbutus, it matters but little what be the theory as to the office or entity of the messenger—if we destroy the steed, the rider will get on but poorly. This we know how to do. But I can see no occasion now to search for further cause of Cholera than the causes producing scurvy, no phenomena in Cholera other than what harmonize with the known laws of scurvy, and nothing at the bed-side after the hemorrhagic action is arrested but the physical evidences of scurvy, neither do the books describe any anatomical lesions contradictory to this view.

In conclusion, if I have not explained every thing pertaining to the subject in this brief monograph, I have given the key that will explain every thing when the laws of scurvy shall be perfectly understood, and it is a consoling reflection that nations, cities, and families can hereafter enjoy protection or immunity from the scourge of epidemic Cholera,

by simply conforming to the natural laws in regard to diet. The proofs presented, that Cholera is a modified form of scorbutus, are as strong as physical proofs can be, or as strong as inductive reasoning can present; as strong as that the sun is the centre of the solar system, and that the earth and the other planets revolve around it: all the phenomena admit of explanation by the theory—the theory tested by practice proves effectual. *Why* scurvy is thus modified, (it always was a Proteus,) has constituted no part of these researches. This will be a subject for further reflection with the writer. The laws of scurvy have yet to be investigated by modern observations, researches, and statistics. The scorbutic diathesis may yet be found to hold a more special relation to *all the zymotic diseases* than has heretofore been suspected. Medical meteorology, or the constitution of the seasons, (abridgment of the crops and fruits by blights,) holds a direct relation with the state of the public hygiene; and it is to this *tangible* cause of disease, and not to an imaginary *malaria*, that we are to turn in search of the laws governing epidemics. With a rational pathology, treatment, and prevention made known, Cholera is divested of all its terrors. Sanitary regulations can now be instituted that shall meet its invasions at the very threshold, in ship, camp, or city, and the public mind be so indoctrinated by suitable publications on the subject, that every family may know in what constitutes its safety; in fine, the true philosophy so disseminated that the wayfaring man, though a fool, need not err therein.

PART SECOND.

CRITICAL ANALYSIS.

ART. IX.—*A Practical Treatise on Foreign Bodies in the Air-passages.* By S. D. GROSS, M. D., Professor of Surgery in the University of Louisville; Member of the American Philosophical Society; Author of "Elements of Pathological Anatomy," "A Treatise on the Diseases of the Urinary Organs," etc., etc. With illustrations. Philadelphia: Blanchard & Lea, 1854. 8vo., pp. 468.

WE have been repeatedly assured, by the leading medical publishers of this country, that they find no class of works so unprofitable as those devoted to specialities. "Compendiums," "Vade Mecums," as a general rule, meet with an extensive sale, and hence the greater frequency with which they are presented to our notice. Practitioners may plead, as an excuse, their want of leisure to peruse more elaborate treatises, but, however satisfactory this may prove to their own consciences, it can but feebly atone for the loss of patients, who, with a knowledge to be derived only from such treatises, might have been rescued from death. We have been strikingly impressed with this view of the subject, by the perusal of the volume before us. After alluding to the defects of systematic works on surgery, in regard to the facts which form the basis of the present work, and to the sources from which those here collected have been derived, our author remarks:

If, in the providence of God, the work shall be instrumental in saving the life of one human being, or even in ameliorating the suffering of a single individual, I shall feel myself amply remunerated for the time and toil bestowed upon its composition. If there be any situation better calculated than another to awaken our sympathy, it is when we see before us a fellow-creature who is threatened, every instant, with destruction, in consequence of the lodgment of a foreign body in the air-passages, without the ability to expel it, or the power to inflate his lungs. It was this reflection which first induced me, many years ago, to turn my attention to the subject, and which has finally impelled me to write this treatise.

His design, originally, was not to write a book, but to compose a short monograph for some medical journal. This imperfect idea of his task, however, was soon dissipated, and he found, to do it any thing like justice, it was necessary to devote to it much time and study. The result is now before us, and "whatever judgment may be pronounced upon it, I trust that I may be awarded at least some credit for my effort to improve a most interesting, and, hitherto, a most neglected department of surgical pathology and practice."

Chapter I., embracing some fifty-five pages, is devoted to general considerations on the nature of foreign bodies that may enter the air-passages; the alterations they may undergo in these passages; their situation, manner of entrance, and of expulsion. These substances he has arranged into different classes, according to the nature of their composition, as the vegetable, animal, mineral, and mixed. Under each of these heads, of course, an almost infinite variety may be found, from a melon seed, or half-sovereign piece, to the jaw-bone of a mackerel, or larnyx of a goose. Several foreign substances may occasionally enter the air-tubes, either simultaneously or successively,—an instance of the latter having occurred in the practice of our author. Foreign bodies, of a vegetable or animal nature, under the joint influence of the heat and moisture of the surface with which they lie in contact, may become so expanded as to seriously embarrass the surgeon in his attempts to extract them. If lodged in the bronchial tubes, they may become incrusted with various kinds of matter, as, for example, inspissated mucus, lymph, and earthy substance, the latter generally consisting principally of carbonate and phosphate of lime, cemented by a little animal matter.

Our author refers to the absurd notions entertained by some practitioners, respecting the softening power of the air-passages on these substances.

Such notions, for they are nothing else, might be dismissed with a smile, if it were not for the mischievous tendency which they are calculated to produce in the minds of the thoughtless and unwary. We might as well wait for the softening and disintegration of the rock of Gibraltar by the waters of the Atlantic and Mediterranean, as for the softening and disintegration of a persimmon stone, and a piece of gristle, by the heat and moisture of the air-passages.

That this process may, however, sometimes occur, and the foreign body be ejected in separate fragments, or *en masse*, we may learn from the cases reported by our author himself. But *to trust* to so remote a contingency, would, indeed, be most culpable.

Professor Gross has taken special pains to examine the facts which

bear upon the question, as to the *relative frequency* of the situation of foreign bodies in different portions of the air-passages, and has satisfied himself that the prevalent opinion, that they more frequently lodge in the right bronchial tube, is well founded. He awards to Mr. Goodall, of Dublin, the credit of having first furnished us with the true explanation of the cause of this circumstance. This is not, as was, until recently, supposed, owing to the difference in the diameter, length, and direction of the two tubes, but depends upon the peculiar position and arrangement of the septum at the root of the trachea. This septum is situated to the left of the mesian plane; hence, the foreign body, in its descent, by striking it, is pushed over towards the right side, and its entrance is still further favored by the greater diameter of the right bronchial tube. A wood-cut is given, to afford us a more perfect idea of the arrangement to which we have alluded.

We pass over Chapters II. and III., which are devoted to the consideration of the immediate pathological effects of foreign bodies, and which contain information of an interesting and practical character.

Chapter IV. treats of the symptoms of foreign bodies. The distressing nature of these is familiar to all; but cases now and then occur, in which there is an *absence* of symptoms, or they are of such an equivocal nature as to perplex the most experienced practitioner. Even Sir Benjamin Brodie, in one case, expressed the opinion that the affection was merely a chronic cough, from which recovery might soon take place! Mr. Renauldin found a fragment of a nail in the lung, and yet during life no symptoms denotive of its presence had existed. In some instances, the profuse and purulent character of the expectoration may lead to the suspicion of the existence of pulmonary phthisis, which is likely to be still more confirmed by the emaciation and exhaustion which follow. But we can only glance at the contents of this chapter, in which the whole question is examined in its minutest details.

In the next chapter we find some general observations on the *diagnosis* of foreign bodies. After remarking that, occasionally, the most thorough examination of the patient and the most minute inquiry into the history of the case fail to afford the requisite light for the formation of a correct opinion, he adds:

> The rule, in all cases of this kind, is to act in the most prompt and efficient manner, on the well-known principle that, although the foreign body may not immediately prove fatal, yet the longer it is retained in the parts, the greater will be the probability that it will ultimately destroy the patient, by keeping up an amount of irritation, the effects of which the respiratory apparatus and the system at large cannot, permanently resist.

Auscultation and percussion, though frequently affording important information, do not always enable us to detect the true nature of the difficulty. In the memorable case of Mr. Brunel, these means completely failed; and our author has collected numerous other examples, bearing upon the same point.

Nor is it always possible to determine whether the offending substance is in the larynx, or some other portion of the windpipe. After a careful examination of this question, Professor Gross remarks:

From the above cases, few as they are, and imperfectly acquainted as we are with their histories, we may, nevertheless, conclude, as a general rule, that whenever there is aphonia, whether partial or complete, the foreign body is situated in the larynx; at all events, there is a strong probability that this is the case; a probability which is converted into perfect certainty, if, conjoined with this symptom, there is pain, soreness, or uneasiness in the region of the larynx, along with dyspnœa, a whistling sound in respiration, absence of serious disease in the bronchial tubes and lungs, and inability, on the part of the observer, to perceive the offending body moving up and down the trachea.

The voice, however, may be seriously affected, and yet the foreign body not be lodged in the larynx. In the case where Mr. Liston removed a piece of bone impacted in the right bronchial tube, dyspnœa, noisy and stridulous breathing, were among the prominent symptoms. In that of the child which was brought to Dupuytren, on the fifth day after inhaling a bean, there was complete aphonia, although the substance was perceived playing up and down the trachea, from which it was removed by an operation.

When the foreign body descends from the larnyx, it is usually arrested in one of the bronchial tubes, by which the respiratory murmur in the corresponding lung is generally more or less affected. Percussion frequently elicits an nnnaturally clear and resonant sound, as in pulmonary emphysema. Professor Gross is of the opinion that we have no means of positively determining when the offending substance is permanently arrested in the trachea.

The number of such accidents is exceedingly limited, and the phenomena attending them have not been studied with sufficient accuracy to justify us in deducing from them any special conclusions. Mr. Cæsar Hawkins,* of London, has attempted to prove, by the citation of several cases, amongst others, by one occurring in his own practice, that when the extraneous substance is lodged high up in the trachea, or partly in the trachea and partly in the larynx, the nature of the

* *Medico-Chir. Trans. of London,* vol. xiii., p. 105, 1840.

affection will be evinced by the entire absence of cough, by the integrity of the voice, by the constant whistling sound in respiration, by the fixed soreness, pain, or uneasiness at the seat of the obstruction, and by the ability of the patient to laugh, speak, and eat, as if nothing had happened. . . . Although the foreign substance, in several of the instances herein analyzed, was permanently arrested in the trachea, yet, inasmuch as no definite statement is given of the symptoms in any of them, no use can be made of them in illustration of the present topic. I have presented a faithful outline of the facts adduced by Mr. Hawkins, in order that the reader may be able to draw his own conclusions. They are certainly entitled to attentive consideration; but whether they warrant the opinion which he has based upon them, is a question that can be determined only by future and more extended observation.

Chapter VI. treats of the spontaneous expulsion of foreign bodies, and under this head a number of curious and interesting cases has been collected, which were followed by recovery. The examples of the spontaneous expulsion of pieces of coin are rare, and but one is mentioned in the table. Dr. Geoghegan has reported another, in the *Dublin Medical Press*, Oct. 11, 1854.

Nails are mentioned in four of the cases in the table. Dr. Watson, of London, and Drs. Brown and J. Mason Warren, of New England, have reported cases of spontaneous ejection of carpet tacks; and in the *Montreal Medical Chronicle*, October, 1854, Dr. Crawford, of the McGill College, has reported another example, in which the tack was expelled after remaining in the trachea for nineteen days.

A statistical table is given, containing forty-nine cases of the spontaneous expulsion of foreign bodies from the trachea, in which recovery followed. These cases are afterwards detailed in full. Another table is given, containing eight cases of spontaneous expulsion, followed by death. A complete account of each of these is also presented.

We have neither time nor space to dwell upon the medical treatment in these cases. Although the foreign body has been occasionally expelled by means of emetics, sternutatories, inhalation of iodine, etc., etc., yet they are worthy of but little reliance.

Of late, inversion of the body has been not unfrequently employed by some of the most distinguished European and American surgeons. It is liable to one serious objection, viz.: it may cause the suffocation of the patient by exciting spasm of the glottis. This may be guarded against, by bronchotomy, as was practiced by Sir Benjamin Brodie, in the case of Mr. Brunel. Unsuccessful cases, of inversion alone, have been reported by Dr. J. Mason Warren, Professor Eve, Dr. Hoyt, Mr. Luke, Bransby B. Cooper, Dr. O'Reilly and others. An abstrac of these cases is furnished by our author.

We have now reached the most important part of Professor Gross's Treatise, viz.: *The surgical treatment of foreign bodies in the air-passages.* The cases are exceptional in which the methods already noticed have proved successful, and while the extraneous substance remains in the windpipe, the patient is in constant danger of suffocation, or of perishing from inflammation and its consequences.

The proper practice, therefore, is, in all cases, without exception, to perform bronchotomy as soon as possible after the occurrence of the accident. The artificial aperture effectually prevents spasm of the muscles of the larynx, and thus enables the patient to breathe with greater freedom, at the same time that it permits the foreign body, if it do not escape at once, to play up and down the air-tubes with comparative impunity. In many cases, however, the foreign substance is expelled as soon as the windpipe has been properly opened, being often projected to a considerable distance from the patient's body. In general, it escapes at the artificial orifice, but sometimes it passes through the glottis, and is either expelled by the mouth, or it descends into the stomach. The ejection is occasionally delayed for days, weeks, and even months after the operation, and even after the closure of the wound. Under such circumstances, a second and even a third operation may become necessary, as in several of the cases mentioned in this treatise.

The history of bronchotomy is preceded by some very interesting anatomical and physiological considerations of the parts involved in the operation. Our author has made some experiments on animals, to ascertain the influence of chloroform upon the sensibility of the different portions of the air-tubes. "As I had been led to anticipate from my observations upon the human subject, every particle of feeling seemed to be destroyed, and the probe could be pushed freely up and down the passages without exciting the slightest uneasiness. In fact, the animal seemed to be wholly unconscious of what I was doing, even when the instrument was carried most rudely into the larynx up into the fauces."

Professor Gross is of the opinion that, if it be possible to employ tracheotomy, the larynx should seldom be opened, on account of the difficulty in the diagnosis of foreign bodies in this portion of the air-tubes. An opening midway, or nearly midway, between the sternum and the larynx, places the operator in sufficient proximity with each extremity of the canal, and affords him every possible facility in extracting the foreign body, no matter what its situation. In the operation, if it be found impracticable to avoid the division of the isthmus of the thyroid gland, serious hemorrhage may be avoided by embracing the part in two ligatures, and then carrying the knife between them. In the report of the case of spontaneous expulsion of

a coin, as given by Dr. Geoghegan in the *Dublin Medical Press*, Oct. 11, 1854, this gentleman states, that he has found that the division of the isthmus of the thyroid body is not necessarily accompanied by hemorrhage, unless there exist disease of the gland itself.

Professor Gross considers the use of a canula after the operation highly objectionable.

It is difficult to perceive the philosophy of a practice, the inevitable effect of which must be to prevent the ejection of the foreign substance by opposing a mechanical obstacle to its ascent in the windpipe. In using it, the caliber of the trachea must necessarily be materially diminished, and the patient compelled to breathe through one opening instead of two, as when the parts are left to themselves. Again, if the canula be employed to arrest hemorrhage by compressing the edges of the wound, that end may be quite as readily and as advantageously attained by the use of the blunt-hook hereafter described. Considering that the object of the operation is the expulsion of the offending body, nothing should be done after it has been performed to delay, much less to prevent, so desirable an event. On the contrary, every effort, consistent with the patient's safety, should be made to promote it; and for this purpose the wound, as was before stated, should be maintained in as free and unembarrassed a condition as possible.

The use of chloroform in this operation, he remarks, cannot be too warmly praised. He recommends its administration not only during the operation, but during the extraction of the foreign body, with the view of controlling cough and spasm of the windpipe, which often most seriously embarrass our proceedings.

Most valuable instruction is given us as to the best methods of extracting the foreign body, and numerous illustrations are furnished of the different instruments employed for this purpose, as well as of those to which he gives the preference.

The difficulties and dangers of the operation are next most ably considered. Of these, hemorrhage is most to be apprehended. In laryngotomy, of course, this risk is slight; but in tracheotomy it has proved fatal in the hands of the most eminent surgeons. The various sources from which it may proceed are fully discussed, and wood-cuts given to show the anomalous branches found in the tracheal region.

Our author offers many judicious remarks respecting the dressing and after-treatment, observing at the same time that they may appear to some trivial, if not useless; but such can place very little estimate upon the results of surgical operations, and the value of human life.

The treatment after the operation, whether followed by the removal of the extraneous body or not, is a matter of paramount importance, and, should, therefore, always receive the special consideration of

the professional attendant. The foreign body may have been retained for days before the windpipe is opened; but, even where this has not been the case—where, indeed, it has been expelled, even within a comparatively short period after its introduction—there is always danger of severe inflammation of the lungs and air-tubes; and it is for this reason, that the practitioner should always be on the alert, carefully watching his patient lest the disease, thus awakened, should progress, and finally, before he is conscious of it, gain the ascendancy.

The remaining portion of the volume is devoted to the details of cases in which laryngotomy, tracheotomy, and laryngo-tracheotomy have been followed by the expulsion of the foreign body and the recovery or death of the patient. Several cases are likewise reported in which a repetition of the operation was required, and others, in which no foreign body was found, although the symptoms were strongly denotive of its presence. The work concludes with a chapter on bronchotomy in the inferior animals, and a general summary based on the facts and cases therein collected. Throughout, as we have attempted to show, it abounds with the most valuable practical information, and we venture to assert that no one could have been selected more competent to fulfill the task required than Professor Gross. An indefatigable student, of vast experience, and possessed of a mind preëminently qualified for "arranging, analyzing, and tabulating the isolated and scattered facts of Medicine and Surgery," he has produced, as might have been expected, a volume worthy of his high reputation.

G. C. B.

BIBLIOGRAPHICAL NOTICES.

ART. X.—*Illustrated Manual of Operative Surgery and Surgical Anatomy.* By MM. CH. BERNARD, D. M. P., and CH. HUETTE. Edited with notes and additions, and adapted to the use of the American Medical Student, by W. H. VAN BUREN, M. D., Prof. of Anatomy, Univ. Med. Coll., etc., and C. E. ISAACS, M. D., Demonstrator of Anatomy, Univ. Med. Coll., etc. Illustrated with steel engravings, from drawings after nature, by M. J. LEVEILLE. New York: H. Baillière, 290 Broadway, and 219 Regent street, London. Paris: J. B. Baillière, Rue Hautefeuille. 1855. 8vo. pp. 513.

WE have had occasion to notice heretofore the appearance, with short intervals, of the first two parts of the *Illustrated Manual of Operative Surgery*, by Bernard and Huette, edited by Drs. Van Buren and Isaacs, of this city. We now have the pleasure of announcing the publication of the third and concluding part of this splendid work, and its presentation to the profession in one nicely bound and portable volume.

This is incomparably the most beautifully illustrated work ever presented to the American practitioner. It is, indeed, what the editors very properly claim "a complete and concise picture of the science and art of Operative Surgery, in its present advanced and perfected condition." Every instrument, from the simplest to the most complicated, is represented, and the various steps of every form of operation are accurately and vividly delineated. The text contains a concise but accurate description of the various operations pursued or recommended, and the volume being thus left unincumbered with tedious details and speculations, its value as a manual is greatly enhanced. The part borne by the editors is limited, the additions to the text being wisely confined to a few explanatory foot-notes.

The first thirty pages and twenty-five plates are occupied with a description and illustration of the various instruments employed in operative surgery. These embrace every variety of instrument used in incision, ligature of arteries, amputation, exsection of bones, trephining, for the eye and ear, in laryngotomy and tracheotomy, for removal of nasal polypi, in operations about the fauces, pharynx and larynx, intestines, hernia, anus, penis, urethra, vagina, uterus, etc., etc. They are all *modèles Charrière*, and nothing can exceed in delicacy and accuracy the artistic execution of the plates. Following these, we have illustrations of the minor operations, as venesection, closing wounds, etc. The eleven succeeding plates are devoted to the *ligature of arteries*. This portion of the volume, relating to some of the most common and yet important operations in surgery, is exceedingly instructive. The dissections are accurately and extensively drawn, and exhibit as satisfactorily as anything but actual dissection can, the relative anatomy of the parts concerned in each individual case.

The next subject is *amputations;* first, amputations in the contiguity of limbs; second, amputation in the continuity; and third, exsections. Following this, is the operation of *trepanning*, with a representation of the relative position of the intercranial arteries. Operations upon the eye and its appendages are fully and minutely illustrated, as also those upon the ear. No special work on these branches, within the reach of the practitioner, contains nearly so complete a picture of ophthalmic and aural surgery. With equal fidelity we have represented the various operations upon the lips, nasal passages, nose, tongue, tonsils, salivary apparatus, soft palate, æsophagus, trachea, etc. Next, we have pictured the operations on the breast and chest, as removal of the breast, paracentesis of the thorax and pericardium, etc. Then follow operations upon the abdomen, paracentesis abdominis, gastrotomy, opening abscesses of the liver and ovarian cysts, treatment of wounds of the abdomen, intestines, etc.

The operations for hernia, one of the most important divisions of operative surgery, are here displayed with all the reality and accuracy of which art is capable. The surgical anatomy of the parts which these tumors involve, so necessary to be understood by the operator, leaves nothing to be desired as regards illustrations. The remainder of the volume is occupied with operations upon the anus, penis, scrotum, urethra, bladder, and the female genitals, with a section on

tenotomy. They embrace artificial anus, hemorrhoids, fistulæ, varicocele, hydrocele, lithotomy, lithotrity, operations upon the uterus, etc.

We feel that it is impossible in the notice of an illustrated work like this to give the reader a just impression of its character. Admitting of neither analysis or review, we are left to express an almost unqualified opinion of our appreciation of the volume, which he may or may not accept as conclusive. We do not hesitate, however, to express the *unqualified* opinion, that this volume surpasses in artistic execution any work on operative surgery ever presented to the profession in this country. Its convenient and portable form, being an ordinary octavo, commends it strongly to the attention of the country surgeon.

For further information in regard to this, as also other works, the reader is referred to the advertising sheet of this Journal.

ART. XI.—*Lectures on Histology, delivered at the Royal College of Surgeons of England in the Session* 1851–2. By JOHN QUEKETT, Professor of Histology. Vol. II. *Structure of the Skeleton of Plants and Invertebrate Animals.* Illustrated by two hundred and sixty-four wood-cuts. London: Hippolyte Baillière, 219 Regent street, and 290 Broadway, New York. 8vo. pp. 413.

THE first volume of Mr. Quekett's *Lectures on Histology* appeared in 1851, and was then made the subject of a brief notice in this Journal. This volume was limited to a description of the principal tissues of vegetables, including three belonging to animals, viz.: simple membrane, fibrous and cellular tissue. The present volume embraces the hard tissues, and is almost wholly occupied with the Rudimentary Skeleton of Invertebrate Animals. These embrace the Sponges, Zoophytes, Mollusca, etc., and of the Articulata, Entozoa, Insecta, etc., etc.

The study of Histology has been prosecuted abroad with a marked degree of enthusiasm, and this science has consequently undergone, within the past few years, a corresponding advancement. In this country, unfortunately, a far less degree of attention has been directed to subjects involving laborious study and minute and long-continued investigations. We deem this state of things unfortunate, because we have among us minds, that, if properly directed during their pupilage, would cultivate these more abstruse studies with a generous enthusiasm, and explore the now uncultivated fields of physical science in this country. The fault rests with our medical schools. These institutions shape and direct the course of medical study, and give bias to the medical mind of our country. And it is gratifying to observe an increasing disposition in our colleges to make their courses of study more thorough, and give more prominence to microscopical studies. The influence of this instruction is already beginning to be perceived, in the increasing demand for instruments and text-books on microscopy.

To the class of students who are advancing in the study of micro-

scopical science the *Lectures* of Mr. Quekett are of great value. The style is clear, the objects observed are, many of them at least, easily procured, and the illustrations are numerous and excellent. No work has recently appeared more deserving the attention of the student of natural and medical science.

ART. XII.—*The Principles and Practice of Obstetric Medicine and Surgery, in reference to the Process of Parturition; with sixty-four Plates and numerous Wood-Cuts.* By FRANCIS RAMSBOTHAM, M. D., Fellow of the Royal College of Physicians, London, Obstetric Physician to the London Hospital, etc., etc. A new American Edition, revised by the Author. With Notes and Additions, by WILLIAM V. KEATING, M. D., A. M., Lecturer on Obstetrics and Diseases of Women in the Philadelphia Medical Association, etc., etc. Philadelphia: Blanchard & Lea. 1855. 8vo. pp. 648.

AN interesting feature in the history of this work is the appearance of a new American edition, prepared expressly by the author, without a corresponding English edition. This tacit but expressive compliment to the author is duly acknowledged in the preface to the volume. Aside from the sanction which the rapid sale of this work gives to its merits, and adaption to the necessities of the practitioner, we would add our own word of commendation. The principal feature which characterizes the work, is a system of well-executed plates, sixty-four in number, which thoroughly illustrate every branch of simple, complex and operative midwifery. In addition to this, the text embraces a complete and comprehensive exposition of the present state of obstetric medicine, and the authority which pertains to the writings of Dr. Ramsbotham is sufficient guaranty of the correctness of the doctrines inculcated. The author has made some important additions to the present edition. Dr. Keating has added many valuable notes, tending to make the text more clear, or dissenting from the opinions of the author. This volume, made so complete by its plates and copious text, may now be regarded as one of the best guides in the practice of midwifery to which we have access.

ART. XIII.—*Principles of Physiology;* designed for the use of Schools, Academies, Colleges, and the general Reader; comprising a familiar explanation of the Structures and Functions of the Organs of Man, illustrated by comparative reference to those of the inferior animals. Also, an Essay on the Preservation of Health, with fourteen quarto plates and over eighty engravings on wood, making in all nearly two hundred figures. By J. C. COMSTOCK, and B. N. COMINGS, M. D. New York: Samuel S. & William Wood, 261 Pearl-street, 1855. Quarto, pp. 110.

THIS is by far the best illustrated work of Physiology, designed for schools and popular reading, with which we are acquainted. The plates are all accurately drawn and most of them are beautifully colored, while the text is clear and concisely written.

PART THIRD.

FOREIGN MEDICAL RETROSPECT.

PRACTICAL MEDICINE.

On a prevailing form of Chronic Pneumonia. By Dr. Cotton.—After a brief comment upon the increasing frequency of chronic diseases within the last few years, the author entered upon the description of a peculiar form of low or chronic pneumonia, which has extensively fallen under his notice at the Consumption Hospital. The old and the young, the strong and the feeble, are, with nearly equal frequency, the subjects of the disease. There is, at the commencement of the attack, very seldom any local pain; neither is there dyspnœa nor much cough. The expectoration is scanty, or, perhaps, entirely wanting; the rust-colored sputa, so characteristic of active pneumonia, being but rarely observed. The pulse is at first very slightly affected, seldom exceeding 80 or 90 in the minute; and there is little symptomatic fever. Every symptom of the disease, indeed, is of a passive character, scarcely exciting the apprehension even of a medical attendant. It may thus continue for weeks, or even months, until a little local pain or slight dyspnœa, or a severe and intractable cough, with perhaps some emaciation and night perspirations, lead to a suspicion of something more formidable than the dyspepsia or the bronchitis, to which hitherto the symptoms had probably been referred. The author was of opinion that, under early and judicious treatment, the great majority of cases may recover; but that too often the disease either degenerated into true pulmonary tuberculosis, or ended in a fatal softening or breaking up of the pulmonary structure. He dwelt particularly upon the importance of an early and careful examination of the chest; stating that dullness on percussion, but not bronchial respiration, and little if any change in the external appearance of the chest, were the characteristics of the early stage; the breathing becoming weaker, and marked by subcrepitant rhonchi; and the thoracic parietes undergoing contraction as the disease advances. He had very rarely indeed heard the *fine crepitation* of more acute pneumonia. Dr. Cotton considered that, in the early stage, the lung was simply engorged; that, at a later period, it was the seat of an albuminous or fibrinous exudation, which, in cases still further advanced, had undergone the softening process. He illustrated these statements by briefly narrating cases in point. He was anxious to distinguish the disease he was

describing from pleuropneumonia, which he considered was usually a more severe and acute seizure, although he believed that now and then the one may pass into the other. When the attack was of recent date, cupping or leeching were recommended; but if, as generally happened, the stage of engorgement were passing away before the case came under treatment, counter-irritation with blisters, and subsequently with stimulating and iodine liniments, was specially advised: the author, indeed, considered this practice of equal or even greater importance than any other part of the general treatment. Mercury in moderate doses, (except in cases evidently associated with phthisis,) with, in some instances, antimony, and general expectorants and sedatives, were the appropriate remedies for the early periods of the disease; slight mercurial action, together with tonics, being suited for the more advanced and chronic stages. Amongst the latter class of medicines, the author particularly spoke of the iodide of iron and cod-liver oil, either separately or in conjunction; the iodide of potassium, quinine, and steel. Whatever medical means were resorted to, he insisted upon the great importance of hygiene; stating his conviction that healthful and happy associations, with thorough physical and mental relaxation, together with a liberal and nourishing diet, should ever form a part of the physician's prescription.

In the discussion which followed, Drs. Glover, Camps, Andrew Clark, Theophilus Thompson, Gibb, Radcliffe, and Ryan, and Messrs. Ross and Hinton, took part. Dr. Glover believed that the affection described by Dr. Cotton was the same disease as had been so well described in *Guy's Hospital Reports* (vols. for 1837 and 1843) by Dr. Addison. It often closely simulated pneumonia and phthisis, but it was really an albuminous infiltration of the pulmonary tissue, and was most commonly met with in the middle portion of the lungs.

Treatment of Plastic Bronchitis. By T. B. Peacock, M. D.—In the cases of acute plastic bronchitis which come under the care of the medical practitioner at the commencement of the disease, the aim should be—1st, to relieve the inflammatory symptoms; 2d, to assist the expulsion of the membranes when formed; and 3d, to prevent their further formation. These indications should be accomplished by a judicious employment of antiphlogistic measures, regulated by the urgency of the symptoms and the power of the patient. It would be necessary to cup or apply leeches over the affected part of the chest, to exhibit antimony, and to affect the system mildly with mercury. The expulsion of the membrane might be assisted by the use of emetics, and by inhalations of the vapor of water, or of etherial or other fluids; and the further formation of the membrane would probably be best controlled by mercury. In the later stage, the use of anodynes and tonics would be required.

The use of mercury in conjunction with other antiphlogistic means is strongly recommended by Drs. Gordon and Banks; and Dr. Thierfelder, while he says little benefit results in the acute disease from a purely antiphlogistic course, approves of the employment of depletion in combination with mercurials. He also regards mercurials, the

hydrochlorate of ammonia, and the iodide of potassium, as beneficial in the chronic form of the disease. The latter remedy he employed, in the treatment of the case which he has related, in very large doses. Dr. Watson, in alluding to a case of plastic sputum, which was attended with hæmorrhage to an alarming extent, remarks, that though the case seemed at first to call for active interference, and was in consequence energetically treated, on looking back upon it, he regarded the treatment as having been unnecessarily active; and the remark seems applicable to a large proportion of the cases of this description. Though alarming in their first appearance, they often do not seem to require very active measures for their relief. In those cases in which the disease becomes chronic, or recurs at intervals, on any exacerbation of bronchitic symptoms, protection against the weather, and, if possible, residence in a warm climate, should be enjoined.—*Med. Times and Gaz.*

Treatment of Gout. By George Budd, M. D.—The treatment of gout is very plain. Some of our best authorities make it very short indeed, and will tell you, "patience and flannel" will do every thing; but if gout is thus neglected, lithate of soda settles in the smaller joints, and the disposition to gout is encouraged; I would rather advise, when you get the disease in time, with fever, hot skin, full pulse, and gout well-marked, give calomel and colocynth first, with the ordinary senna draught followed up by carefully administered doses of colchicum. You may give the *acetic extract* gr. i. ad. ad. ii. omni nocte, or the *vinum sem. colchici.* Of the latter you must not give more than a drachm a-day.

It is most important for you to learn how to give colchicum; it is a very powerful remedy, and accumulates in the system. You should give vin. sem. colchici gtts. xx. ter in die, in the ordinary saline draught; but not with alkaline solutions. The latter may be given in the intervals, but alkalis are said to decompose colchicum, or you may give the colchicum at night, and the bicarbonate of potash in the day. Camphor mixture, cinnamon-water, etc., may be given with the colchicum and small doses of the spts. nitri. dulcis; this and the aq. acet. ammoniæ will act on the skin, and liver, and kidneys, and thus assist in eliminating the noxious matters of the blood which assist, if they do not alone assist, in generating this terribly painful disease. We need not give formulæ, as every case will require prescriptions adapted specifically to itself. As a matter of prophylaxis, the physician should advise patients to avoid drinking largely of malt liquors or bad wines; indigestible and unwholesome food also are to be proscribed.

In inflammatory gout you should attend also to the digestive organs, but above every thing malt liquors should be given up; I have known two or three patients make marvellous recoveries by this simple expedient alone. The Bath waters at one time enjoyed a great reputation for curing gout; now, all the world that can do so, go to Weisbaden, where many remarkable cures are made; to these waters I would add gentle tonics, preparations of steel, preparations of bark, the liquor cinchonæ without acid; an overdose of colchicum is known

by the patient complaining of nausea; if pushed further, he will have vomiting and diarrhœa, and very remarkable depression of pulse to 50 or even to 40; if there be headache the dose is too large; we should not give colchicum where there is already diarrhœa or irritable bowels; when given it should be continued till after the gouty inflammation has disappeared, in small and vanishing doses. The limb affected, I need hardly remark, should be wrapped in hot wool, or hot flannel, or, what I have found useful, fomented with the hot alkaline fomentation.—*Med. Cir.*

Treatment of Irritable Stomach in Phthisis.—Several very pleasing cases, illustrative of the good effects of hydrocyanic acid and bismuth in the treatment of irritable stomach in phthisis have recently been under observation among the out-patients at the City of London Hospital for Diseases of the Chest. The patients had been long subject to nausea and attacks of vomiting, and were quite unable to retain cod-liver oil on the stomach, very often rejecting also ordinary food. The mixture prescribed consisted of 3 minims of the hydrocyanic acid and 10 grains of the trisnitrate bismuth made into a draught with mucilage and green-mint-water, and taken thrice daily. By its aid several patients have got quite rid of their troublesome stomach symptoms, and are now taking the oil easily and with benefit. The class of cases best suited for this treatment are those in which the tongue is generally clean, and in which the disease is undue irritability rather than disordered function.—*Med. Times and Gazette.*

External Employment of Aconitine.—An interesting case of painful stump is now under the care of Mr. Hilton, in Guy's Hospital. Its subject is a stout muscular man, whose right hand was removed after an injury some time ago. Ever since the amputation he has suffered most severely from neuralgia of the ulnar nerve, which has quite prevented him from using the stump. The pain was also increased by the least motion. Mr. Hilton ordered the application of an aconitine ointment over the course of the nerve. The ointment consisted in two grains of the alkaloid to an ounce of lard. Very great benefit speedily resulted, and when the man left the Hospital a short time afterwards, the pain had been so completely relieved, that he could use his arm most actively without producing any uneasy sensation. The cure, however, was not permanent, and a month after his discharge the man was re-admitted. Mr. Hilton did not think it advisable to trust him to use the ointment continuously, and as nothing less seemed to keep the pain in abeyance, it was decided to excise a portion of the ulnar nerve. The operation was performed last Tuesday, a little below the elbow, an inch and a quarter of the nerve trunk being cut out. The case is of value, as showing what the effects of the ointment might be in cases in which the neuralgia was due to a transitory cause. Mr. Hilton has also under care a man suffering from irritable bladder, in whom the same ointment has been had recourse to. By frictions over the loins and sacral region great relief has been obtained, and the man who was formerly passing his water every few minutes can now retain it for an hour at a time.—*Ibid.*

Cases of Ulceration of the Stomach, inspected at Guy's during the year 1853.—Dr. HABERSHON concludes his paper (*Medical Times and Gazette*) thus:—The cases I have thus briefly narrated present ulceration of the stomach in some of its several forms.

1. Aphthous ulceration, minute very numerous ulcers, perhaps coming on but a short period before death, and closely allied to a second form, or hæmorrhagic erosion, or gastritis folliculosa of Cruveilhier, and the perforating ulcer, which occurs not unfrequently in young persons, in whom, with an almost healthy mucous membrane as to external appearance, a small ulcer has led to circular smooth opening into the peritoneal cavity, and speedy fatal results. This is an important class of disease, although no instance is recorded in this paper. It is probable that depressed nervous power, with disordered secretion or irritating food, lead to this condition. 3. Simple ulceration, arising in connection with inflammatory condition of the mucous membrane, and often associated with congested portal or hepatic circulation. 4. Chronic ulceration, often terminating by perforation, or, as one of the cases narrated, by exhaustion. 5. Chronic ulceration, arising probably from some corrosive or irritating substance administered, and leading to destruction of the mucous membrane, and subsequent contraction. I have avoided functional diseases of the stomach, and those which are of a carcinomatous character; but I trust that the contrast of these several cases may not be without interest, and will, I doubt not, suggest interesting questions as to their treatment and pathology, beyond those which have been incidentally alluded to in the detail of these cases.

The treatment which I have seen most efficacious in many cases of ulceration of the stomach, has been the administration of food of a simple, unirritating, but nutritious character, in small quantities, but frequently repeated; and where *excessive* irritability of stomach has existed, by the use of nutrient enemata instead of the administration of food by the stomach, counter-irritation, and by the internal use of alkalies with sedatives of hydrocyanic acid, bismuth, conium, creosote, etc. Where less irritability has been observed with loss of power or anæmia, by vegetable tonics, quinine, or steel, in their mildest forms of administration. In that form of ulceration which appears to arise with congestion of the portal system, (the 3d class of cases,) great relief is afforded by freely relieving such congestion by the least irritating means; sometimes, also, by the application of leeches to the scrobiculus cordis, and afterwards by the internal administration of nitro-hydrochloric acid with vegetable tonics.

Treatment of Carbuncle. General Treatment.—Three or four different plans of treatment are in vogue in the Hospitals for the treatment of carbuncle. 1st. By stimulants, full diet, quinine, ammonia, etc. 2d. By opium, freely used, and generally combined with tonics. 3d. A more expectant plan, by salines, low diet, etc., in the first stage, and the moderate use of tonics afterwards. In all these, purgatives, of course, form a part. One of the largest carbuncles which we have ever seen, occurred to a tailor, from Hampton Court,

who was treated by Mr. De Morgan, in the Middlesex Hospital, about two years ago. The case was an extremely severe one, the depression of the vital powers being such that, for more than a fortnight the result seemed very doubtful. The very free use of opium, in combination with liquor cinchona, appeared to answer an excellent end, and the man ultimately recovered. We have not, however, seen the opiate plan tried on a sufficiently large scale to justify an opinion as to its general merits, the method by stimulants being by far the most frequently adopted. Mr. Lloyd, at St. Bartholomew's, is the surgeon who is, perhaps, the most sparing of any in the use of stimulating remedies; and we certainly have not observed that his cases do any worse than those of others. In the early stages, Mr. Lloyd generally prescribes salines and fever diet; unless, indeed, the patient be very old or infirm. In one case under his care, after the sloughs were separating, several attempts were made to give stimulants, but on each occasion a fresh accession of inflammation being caused, they were at length desisted from, and the man recovered very satisfactorily without. In carbuncle, as in all other diseases, the surgeon should, doubtless, pay less regard to the name and reputed pathology of the affection than to the symptoms actually present. If the system be much depressed, if the disease appear to have resulted from bad living, and, above all, if the patient's instincts demand them, stimulants should be pushed. If there be extreme restlessness, pain, exhaustion, etc., and if, after a few doses, it appears to agree with the stomach, the sustaining properties of opium may probably be very valuable. Should, however, the patient be of fair strength, the disease in its stage of advance, and attended by sharp inflammatory fever, it may be doubted whether any empirical evidence as to the usefulness of stimuli under such circumstances has yet been obtained sufficiently strong to lead the surgeon to ignore the rational principles of treatment. In such a condition, the arrest of the disease would probably be much sooner effected by alteratives, purgatives, and salines, than by brandy or opium. It is even not improbable that the bleeding caused by incisions is often of great advantage.

Local Treatment. From the time of Wiseman, the practice has been general of making free crucial incisions into all carbuncles. It has not, however, been absolutely universal. A few surgeons, among whom may be mentioned John Pearson in our own country, Von Walther in Germany, and Perrez in France, have been sceptical as to its efficacy. There are also in the present day some surgeons who do not recommend it. Chelius, on the contrary, who appears to have paid some attention to this question, records thus, in strong terms, his conclusion :—"That cutting into the carbuncle is generally neither useful nor necessary, is the most dangerous statement that can be put forth respecting its treatment." Respecting this point, two propositions may, we think, be maintained: 1st. Carbuncles will very frequently get well without having been incised. 2d. The practice of incision, however free, does not by any means universally arrest the carbuncular inflammation. In proof of the former, the fact, that of the cases in our list, eight were not treated by incisions, is conclusive. In these, for the most

part, the patients came under care when the disease was evidently arrested, and when free openings had spontaneously formed; so that there was no object for resort to the knife. Many others besides these have been under our observation, and, as a general rule, it may be asserted that the destruction of tissues is far less extensive when the incision has been avoided, than when practiced. The consequent cicatrix is of course much less also. The assertion, that incisions, even of the freest kind, do not always arrest carbuncular inflammation, will scarcely be held to need proof by any one who has seen much of the disease. If the proof be required, however, we may refer to the fact, that in five out of the twenty-seven cases in which incisions were practiced, their repetition was subsequently necessary. Yet, granting the occasional spontaneous curability of carbuncle, and the occasional failure of treatment by incisions, the case still stands very triumphantly in favor of the latter. The only drawbacks to their use are the amount of sloughing and the large scar; but to set against these we have the complete relief of pain in almost every case, and the fact that of twenty-seven cases on our list, in no fewer than seventeen the inflammation never spread after the first incision. This latter fact is one of great importance, for it cannot for a moment be held that in so large a number the cessation of the diseased action was simultaneous with the incision treatment by accident. The relation between the two must, we think, be held proven; and the fact becomes more telling when we add to it, that of the six exceptions in which the disease spread, in none did the spreading continue more than five days, and in none were more than three incisions needed. Now, it happens that a large majority of carbuncles occur in positions in which the avoidance of scar is a matter of no moment; and in those where it is important—the face, for example—the disease is so dangerous to life, that in its treatment considerations of personal beauty cannot be allowed much weight.

Case of Cancer, cured by External Application of Caustic. By J. D. Gillespie, M. D.—A gentleman, aged 79, of a large robust frame, in 1847 received a slight abrasion of the heel, which speedily cicatrized, but the cicatrix soon after gave way and ulcerated. The ulcer dried up and left a hard warty substance in its place, which continued to increase. In 1851, it had assumed the appearance of a hard cancerous growth, fully half an inch in depth. By the advice of Mr. Syme, caustic was applied. Erythema of the leg soon after set in and reached as far as the groin, and the tumor increased in size. A second attack of erythema occurred a few weeks after. The tumor continued to increase in size; the glands in the groin became enlarged; the general health began to be impaired, and the mental faculties were affected. It was in October, 1851, that caustic had been first applied; the tumor was then the size of a walnut, spongy, and occasionally bleeding. Chloride of zinc was had recourse to, and the tumor came away, but after cicatrization had commenced the tumor reappeared. The application was continued for a year with similar results, repeated hæmorrhages took place and the glands in the groin were permanently enlarged. Potassa fusa was applied on three different occasions, but

the chloride of zinc was decidedly more efficacious. On September 18th, a year after the first application, chloride of zinc was tried for the twentieth time, and the tumor to the extent of three inches was destroyed; a part of the os calcis exfoliated. Two years have now elapsed, and there had been no tendency to reproduction. Dr. Gillespie considered the case interesting, as it was just such a one which was occasionally vaunted by some quack as a victory gained over modern surgery, and this one certainly explained their so-called cures, and at the same time it was fraught with caution to the surgeon not to lose an opportunity of giving similar cases a trial with the caustic before dooming them irrevocably to the knife.—*Ed. Monthly Jour.*

SURGERY.

The Value of Cough-impulse as a Symptom of Hernia.—Several instances have recently come under our notice illustrating the value of the knowledge of the fact, that *in tightly strangulated hernia no cough-impulse is ever felt.* In all the reducible or merely incarcerated forms, the information derived by making the patient cough is so conclusive, that it is not surprising that attempts should be made to apply the same test to cases in which strangulation exists. Entire forgetfulness of the condition of the bowel could, however, alone induce any expectation that impulses generated within the abdomen would be communicated to it. In all cases in which the constitutional symptoms of strangulation are present, the diagnosis as to whether the tumor be hernial or otherwise must be made without reference to its movements during coughing. Much valuable knowledge on other points may, however, be yet derived from the test. If—in the certainty from other signs that the tumor is really a hernia—there be not the least impulse, a fair inference may be drawn that the stricture is tight. If impulse be felt in the upper part of the neck of the tumor, and not in other parts, the seat of stricture may be accurately determined, being, that is to say, just below the spot where the perception of impulse is lost. On this latter point Mr. Luke has, in his paper "On the Operation for Strangulated Hernia," *Medical Gazette*, 1839–40, insisted strongly; indeed, we believe he was one of the first to direct attention to its value. With regard to the absence of cough-impulse in strangulated hernia generally, our surgical manuals have, for the most part, neglected to make any observation respecting it, while in some, from the terms used, it might be inferred that it was an ordinary symptom. It is still not infrequent to see cases reported in which its absence is noted as having been a source of difficulty and doubt. Most deeply would it be to be deplored should such absence ever lead to delay in performing the operation, since it is, in fact, a conclusive indication of its necessity. We have not made the statement printed in italics above without first instituting much inquiry among those of most experience, and also availing ourselves of every opportunity which has of late occurred for acquiring data in respect to it. The following sentence in its support we quote from a note by Mr. South, in his edition of Chelius:—"I have on more than one oc-

casion heard surgeons of eminence speak of dilatation of a strangulated rupture on coughing, which, I must confess, I think impossible if the rupture be more than incarcerated."—*Med. Times & Gaz.*

Opium in the Treatment of Chronic Ulcers. By Mr. Skey.—Opium produces a certain effect on the chronic and callous ulcer; if it answers here, it will in other diseases, having the special characters of the chronic ulcer. The pharmacologists tell us it is a stimulant and sedative. What do you understand by the stimulating properties of opium? I should be at a loss to call to mind any cases in which it is given as a stimulant, unless in such as these. In nineteen out of twenty instances it is employed as a sedative, as, for example, in relaxed bowels, and to promote sleep. I can show you it possesses other properties quite equal to these; it prevents sleep sometimes; when taken continually it tranquilizes, but it will not always produce sleep. What is the action of opium to which I allude? Whether it acts on the centre or the periphery, whether on the heart or capillaries, I do not know. But this I do know, that it promotes a healthy action on the capillaries of the body, and in cases of chronic ulcer, which I select as an example, you will have a local action set up, which will heal a wound,—will set up a healthy granulating surface, and completely heal it up in a short time, when every other method has failed to do so. What is the condition and character of a chronic ulcer? A chronic ulcer is an excavation, for the most part, affecting the limbs of old people, generally the inner side of the lower limbs; two processes are going on, the formation of the excavation, and the formation of a ring of organized lymph which encircles the excavation, thus hollowing it to a considerable depth, and its surface is covered with unhealthy lymph. This is common to all of them; the elevation of the margins is not a specific manifestation, as it is common to other forms of ulcer. Under the microscope there is not a granulation to be seen, there is an ichorous discharge, with an offensive fœtor arising from it, and yet there is no sensibility, no annoyance nor suffering to the patient, it goes on for year after year without any change; you may strap it, there is no change produced. I give opium, what does it do? It seems to start the capillary system all over the body, particularly in the lower extremities; it produces a genial glow, which may be compared to that of a cold bath, but not from such as is ordinarily taken; go into a warm bath, with a meal in the stomach, with or without perspiration, it makes no difference; well, then, the glow is produced by the opium, and healthy granulations over the whole surface of the ulcer will become apparent in a week. What is the sum of the actions of opium? You will say it is unhealthy. It is not; it promotes warmth, the pouring out of healthy secretions, it produces healthy integument, healthy granulations, it absorbs the unsound around it, and, while the granulations are coming up the elevations are going down. That cannot be considered unhealthy which promotes health.—*Med. Press.*

An Analysis of 3000 *cases of various kinds of Deformities.* By Mr. E. Lonsdale.—The table is arranged in six divisions:—

1. Deformities of the bones and joints of the lower extremities,

arising from weakness either in the bones themselves, in the ligaments, or in the muscles—1663 cases. 2. Club-feet—495 cases. 3. Deformities of the spine—465 cases. 4. Affections of the joints from paralysis—288 cases. 5. Deformities from badly-united fracture—63 cases. 6. Deformities from arrest of development—16 cases.

Simple bow-legs, or outward curvature of the tibia and fibula is the most common, amounting to 533. Simple knock-knees occur the next in frequency, being 481. Knock-knees and bow-legs may co-exist as rickets, and produce a very great amount of deformity. Bow-legs, with outward curvature of the femur, number only 23. Bow-leg of one side and knock-knee of the other, may be remedied in early life, but not after the bones have become firm. Club-feet are divided into—1. Talipes varus. 2. Talipes valgus. 3. Talipes equinus. 4. Talipes calcaneus. To one form of talipes equinus he gives the name of rheumatic, because that disease causes contraction of the muscles of the calf.

All cases of varus require the division of tendons—viz., the tibialis anticus and posticus, the tendo-Achillis and the plantar fascia. In talipes valgus, the extensor communis and the peroneus must be divided. In talipes equinus, the tendo-Achillis offers the obstacle to replacement. In talipes calcaneus, the treatment is effectual only in those cases (congenital) where the deformity arises from spasm of the muscles in front of the leg. When paralysis of the muscles of the calf exist, the relief is partial.

Deformities of the spine are divided into—Lateral curvature, 173; posterior curvature, 70; latero-posterior, 29. Abscesses form when carious disease attacks the lumbar vertebræ, but not in the higher regions of the spine. Lateral curvature may depend upon disease of the thoracic viscera. Joints may be permanently contracted by the action of surrounding muscles; the hip is most frequently affected. Wry-neck often causes alterations in the expression of the features. Deformities may arise from fractures badly united; the number amounted to 31. The author had seen some cases of spina bifida in the Orthopœdic Hospital, also some of curvature of the legs, from excessive development of the adipose tissue in young children.

Mr. Lonsdale observed that mechanical appliances were resorted to only when Nature had failed to effect a cure. The support was applied laterally, and did not interfere with the motions of the chest, nor with the growth of the pelvis, as it was placed around, and not on that region. The careful and proper employment of mechanical support in his practice had been attended with the most beneficial results. —*Lancet.*

On the value of the treatment of Orchitis by Collodion. By M. Ricord.—Thirty-eight patients have been treated, under M. Ricord, by elastic collodion, according to the rules established by M. Bonnafont. The pain produced by the application of this substance lasted from six minutes to a quarter of an hour. The greater number of patients felt easy from that time, but others experienced a recurrence

during the course of the day. One of them complained of most acute suffering. The inflammatory pain diminished in some, and ceased in others, without any sensible influence from the collodion: in a certain number of cases the pain was sensibly augmented. In none of the patients treated in this way had M. Ricord to relate the miraculously rapid cure announced by M. Bonnafont. After twenty-four hours the tumor had not sensibly diminished in volume; it presented, in the majority of cases, the diminution of one-third of an inch after forty-eight hours; then the diminution continued to operate gradually and progressively. The mean duration of the malady in the cases treated by collodion, was seventeen to eighteen days. At the same time, eleven patients, also affected by blennorrhagic epididymitis, were treated by repose, strict regimen, and topical cold. The inflammatory pain disappeared promptly, and the diameter of the tumor was sensibly diminished at the end of thirty-two hours. The mean duration of the malady was fifteen to eighteen days. A third series of patients was treated by compression by strapping. Here the symptoms disappeared more rapidly than in the preceding plans. The mean duration of treatment was fifteen days. One patient was discharged cured in six days. M. Ricord believes that elastic collodion does not cause such suffering as the ordinary collodion, but that it is a more painful mode of treatment than others. M. Velpeau believes that collodion does not shorten the duration of orchitis; it sometimes diminishes the pain; on other occasions it increases it; it irritates the skin; often excites suppurations, which are tedious and inconvenient. M. Bonnafont has explained his success upon the fact of his having treated his cases at the very outset, a circumstance quite possible in a military hospital.—*Rev. Med. Chir.*

Lithotomy. By Mr. Hilton.—The patient was a lad brought in with well-marked signs of stone. During the preliminary parts of the operation, nothing unusual occurred till Mr. Hilton passed the forceps to extract the stone. The latter was at once found to be very large; but that which protracted the period of the operation to double the ordinary time of such extractions was stated by Mr. Hilton to be a most unusually sacculated condition of the bladder. Again and again the forceps seemed to catch the stone, but as often slipped off the stone again; the latter to all intents and purposes firmly grasped by the muscular bands of the bladder. The operation for lithotomy, we are quite aware, is not one done every day by each of our readers, yet our younger practitioners will do well to take note of these cases when they do occur. The calculus appeared to Mr. Hilton as if held by strong bands of muscular fibres stretching across the bladder, completely encysted, in fact. Such cases are fortunately not often encountered by the surgeon, and when they are, as in the case so ably managed by Mr. Hilton on the 21st. ult., at Guy's, they give rise to no little apprehension. "Cases of encysted calculi are fortunately very rare (says one of the best lithotomists of the day, Mr. Coulson), but when they do occur they present one of the most embarrassing conditions with which the lithotomist can have to deal, for the stone

is more or less concealed in a sac, the entrance into which may be much narrower than the fundus. Could it be ascertained with any certainty, before an operation has been undertaken, that the stone is actually lodged in one of these sacs, I am decidedly of opinion that lithotomy should not be had recourse to, because it is ten to one that the operation will turn out to have been useless." This must be a serious and anxious position for a young surgeon. In the subsequent part of the operation, even when the stone had become detached, it was found very difficult to extract it by the original opening, till Mr. Hilton called for the knife again to enlarge the incision in the soft parts external to the prostate. Considerable hæmorrhage, as might be expected, followed; however, by keeping up pressure on the parts, this was ultimately controlled. As we expected, Mr. Hilton informed us he did not cut so deep as the prostate.—*Med. Cir.*

Upon Wounds of Arteries, and their Treatment. By Mr. Butcher.—The direction given in works on surgery to cut down to a wounded artery, and to put a ligature above and below the seat of injury, is good in itself, but not always practicable. When the internal carotid artery is wounded by a piece of tobacco pipe thrust through the mouth, the common carotid must be the vessel tied. A similar necessity may exist even in wounds of the extremities, as has been shown by Mr. Butcher, F. R. C. S. I., Surgeon to Mercer's Hospital. We find, in the *Dublin Quarterly Journal of Medical Science*, an account of a wound of the profunda artery; ligature of the femoral, below the margin of Poupart's ligament, by a transverse incision; arrest of the bleeding; death eleven hours afterwards. It was impossible to tie the artery above and below the wound, owing to its great depth from the surface; the main trunk was, therefore, secured by a ligature, the incision through the skin being made transversely, as previously practiced by Mr. Porter, in consequence of the necessity of putting on the ligature so close to the crural arch. The most interesting part of Mr. Butcher's communication is the narrative of those cases in which he commanded hæmorrhage from a large vessel by means of well-adapted pressure. A policeman was stabbed in the leg: severe arterial hæmorrhage, followed by faintness, ensued. Mr. Butcher concluded, from the nature of the accident, that the posterior tibial artery was wounded. Graduated pressure, by means of a roller and compresses (7 or 8 pledgets over the situation of the wound) was carefully exerted; the foot was raised; a compress and roller were applied over the popliteal artery, and a dose of morphia was administered: the limb was kept steady by a splint. On the following day, the pressure was removed from the popliteal artery and applied to the femoral, by means of an aneurism compress on the groin. The case did well; and Mr. Butcher, in commenting upon it, remarks that, as a rule, the surgeon should not seek for a wounded artery unless it be bleeding. A case of wound of the ulnar artery above the wrist was successfully treated by compression of the wound and pressure over the brachial artery; and profuse hæmorrhage from the hand after excision of the index finger, with removal of the head of the metacarpal bone, was completely con-

trolled by powerful flexure of the injured limb, together with gentle pressure over both the radial and the ulnar arteries.—*Med. Chir. Rev.*

MIDWIFERY.

On the Advantages of Excision of large Uterine Polypi over Deligation.—Prof. Simpson contends (*Monthly Journal*) that excision of large pedunculated uterine polypi is a simpler and safer operation than removal by ligature. To effect the operation of excision he has invented an instrument having the form of a blunt midwifery hook, with a concealed blade in its concavity, which divides the stalk of the tumor when once embraced by the hook. He thus speaks of the relative dangers of the two operations:—

"The principal danger to health and life in this, as after other surgical operations, is the danger of phlebitis and surgical fever. Is such a consequence more liable to follow upon the instantaneous resection of the peduncle of a polypus, and the subsequent immediate removal of the amputated polypus itself,—or is it more likely to supervene upon the slow process of disjunctive ulceration being set up in the stalk of the polypus by the ligature, while the gangrenous and putrifying polypus itself is left decomposing in the cavity of the vagina?

"I believe that no physician or surgeon acquainted with modern pathology will have any difficulty in answering, that the danger of phlebitis is much greater under the latter circumstances than under the former. The recorded experience of some of those who have written in favor of the ligature, shows strongly enough the occasional liability under deligation to the occurrence of irritative fever and internal inflammations, from phlebitis and the absorption of putrid and purulent matter from the vagina. Dr. Hamilton mentions three cases of death which he had seen follow the removal of uterine polypi by ligature. 'On a close inquiry,' observes Mr. Arnott, 'I find that even those who use it (the ligature) acknowledge that occasionally cases have been met with, where the ligature in cutting its way through, has excited irritation and fever, and even death. Two cases have been described to me by the practitioners concerned where this occurred, and in casually referring to the interesting works of Boivin and Duges I find two similar ones." In his lectures on fibrous tumors of the uterus, Dupuytren states, 'I possess eight or ten observations of women who have perished, from veritable poisoning and absorption of pus, after the application of the ligature for uterine polypus.'

"I have myself seen a woman die with a ligature still fixed around the partially divided neck of a uterine polypus; and other cases where severe but not fatal attacks of phlegmasia dolens and phlebitis followed deligation. Twelve or thirteen years ago, on a patient of Dr. Edgar's, of Berwick, I applied a silver wire ligature to the neck of a large polypus, and tightened it from time to time, according to the usual rules. In the course of a few days the polypus was dead and putrifying; there was much heat and irritation in the vagina; and the patient's pulse became rapid under the irritative fever that followed. On strongly

tightening the ligature, to expedite as much as possible the total amputation of the polypus, the wire broke; and the canula and wire slipped off. I immediately proceeded to remove the polypus by excision instead of making any renewed attempt at deligation; and the result was to me very striking and satisfactory. Within twenty-four hours the local irritation had greatly subsided, and the constitutional disturbance entirely disappeared. From that time to this I have operated on many uterine polypi, but never again by the process of slow deligation. And the more that I have seen of the practice of removing large pediculated uterine polypi by excision, the more deeply has the conviction grown upon my mind, that this method is very superior to the usual method followed in this country, of the removal of them by the canula and ligature.

Case of Puncture of the Ovaries per Vaginam. By Dr. J. Schnetter, of New York.—The case of Dr. Schnetter is one of double ovarian dropsy, two cysts having been successively punctured per vaginam. The patient was twenty-five years old; she had been delivered by the forceps, after a difficult labour, a year before she came under Dr. Schnetter's care; she had suffered from painful menstruation before pregnancy, and, during pregnancy, from unusual distension of the abdomen and difficult respiration. Fever and marked symptoms of peritonitis followed delivery. Examination revealed a tumor reaching a few inches above the umbilicus, occupying the right hypogastrium. The os uteri was in its normal position. To the right, somewhat behind it, and a little higher, a round and but slightly elastic tumor was felt. The uterus was longer than natural, and bent forwards towards the pubis. The continuity of the tumor in the abdomen with that in the pelvis was ascertained by counter pressure. A curved trocar was pushed into the tumor, when it projected behind the cervix uteri. At first, blood, then a few ounces of discolored pus followed. The trocar was driven further in, and by means of a curved knife passed through the canula, a further opening into the tumor made. A little bloody serum followed. A tube was adapted to the wound. Considerable fever and pain ensued. Some days after the operation, pressure being made on the tumor through the abdomen, about four or five pints of offensive purulent gelatinous matter, mixed with fibrinous shreds, escaped through the tube. The tumor disappeared. Discharge continued for some time. The patient's health did not improve. Four months after the puncture, examined again: another tumor was found projecting into the vagina on the *left* side. This cyst was punctured in like manner. Fever and alarming inflammatory symptoms followed. Six days afterwards an abundant discharge took place, gelatinous and fibrinous in character. The wound healed six months after the puncture. The patient eventually recovered her health; and eighteen months after operation there was no sign of relapse.—*Med. Chir. Rev.* from *Verhandl. der Phys. Med. Gesell.*

PART FOURTH.

AMERICAN MEDICAL RETROSPECT.

PRACTICAL MEDICINE.

On the treatment of Puerperal Peritonitis by large doses of Opium. By A. CLARK, M. D., Prof. of Physiology and Pathology in the Coll. of Phys. and Surg., N. Y. Prof. CLARK has communicated to the new American edition of *Ramsbotham's System of Obstetrics*, his experience in the treatment of puerperal fever, by opium, at Bellevue Hospital, N. Y. Following the relation of one case and a reference to several others, he concludes:—

In reviewing the cases, of which an outline is given above, I think the following conclusions are justifiable:—

1st. When a prominent element in "puerperal fever" is peritonitis, the treatment with large doses of opium is more successful than any other that has yet been proposed.

2d. To be successful, this treatment must be commenced early, and the patient must be brought under its influence as rapidly as the susceptibility of the system can be ascertained by trial.

3d. The quantity of opium required to produce a safe but desirable degree of narcotism, varies greatly in different cases; so that it is necessary to begin with doses that cannot do mischief, and increase every two hours till the influence of the opiate is sufficiently decided.

4th. Every dose, during at least the whole tentative period, should be administered by the physician himself, or by some person on whose knowledge of the effects of opium and whose watchfulness and discretion he can rely. Some young physicians are too bold, and endanger the life of the patient; others are too timid, and do not control the disease.

5th. The opium treatment alone will not cure "puerperal fever," when its leading element is purulent metritis, though there is reason to believe that it will control, and even prevent the peritonitis which generally accompanies it. This conclusion has been confirmed by recent observations.

6th. The tolerance of opium in some cases of puerperal peritonitis almost surpasses belief. Yet in private practice I have not found more than half or two-thirds of a grain of sulph. morph., every two

hours, necessary, and have generally begun with less, except for the first dose.

7th. The influence of the opium should be kept up till the pain and tenderness subside, the tympanites diminishes in some degree, and the pulse falls below 100—then, with the concurrence of other symptoms, it should be gradually diminished, and at length discontinued.

A few remarks and statements may be needed to make some of these conclusions intelligible.

The usual effects of opium given in efficient doses for the cure of this disease, are, a disposition to sleep, but not profoundly; a contracted pupil; perspiration, often profuse; sometimes a red, blotchy eruption; diminished frequency of the respiration; subsidence of pain and tenderness; slight suffusion of the eyes; and after a variable time, reduced frequency of pulse. Of these effects, three have been chiefly regarded as the criterion by which each particular dose is to be governed. If, when a dose is due, the sleep is profound (the amount of sleep is of little importance, if the patient be easily roused from it), there is reason to hesitate; if the respiration has already been reduced to twelve in the minute, and is *very* irregular and sighing, the dose should be diminished or wholly withheld; yet so long as the tenderness continues, it is desirable to urge the opiate, but, of course, always within the limits of safety.

The respiration appears to be the most certain indication of danger. I have not generally aimed to reduce it below 12 the minute. Yet in almost every case it has fallen, once or twice in the course of the treatment, as low as 7, and sometimes to 5. In no instance, however, has the narcotism, taken as a whole, been so profound as in the case detailed above. No instance of fatal narcotism has yet occurred under my observation, nor among the many cases reported to me by others.

Regarding the tolerance of opiates in some of these cases—at the risk of being charged with rashness and trifling with human life, I will make some extracts from case 7. The treatment was commenced at 10 A. M., on the 26th of December—two grains of opium hourly. At 2 P. M., no change in symptoms, dose increased to gr. iv. At 3, gr. iv. At 4, gr. v. At 5, gr. v. At 6, gr. viij. At 8, gr. x. At 9, gr. xij. At 11, sol. morph. sulph. (sixteen gr. to f ℥i) ʒiss. At 12, ʒj. At 1½ A. M. (respiration 6), 0. At 6 A. M. (respiration 12), opium gr. xij. At 10, sol. ʒj. At 12 M., opium gr. xij. At 1½ P. M., sol. ʒii. At 2½, ʒii. At 3½, opium xxiv. At 5, gr. xij. At 6½, sol. ʒijss. At 7½, ʒij. At 9, opium gr. xiv. At 10, gr. xvj. At 11, gr. xviij. 28th, at 1 A. M., sol. ʒiiss. At 2, ʒiv. At 3¼, opium gr. xx. At 4, sol. ʒiiss. At 5, ʒiij. At 6, ʒiiiss. At 6½, opium, gr. x. At 7, sol. ʒiiiss. At 8, opium gr. xxij. At 9½, sol. ʒiv. At 10, ʒiij. At 11½, ʒiij. At 12, 0. Thus this woman took, in the first 26 hours of her treatment, opium gr. lxviij., and sulph. morph. gr. vij.; or, counting one grain of sulph. morph. as four grains of opium, one hundred and six (106) grains of opium. In the second 24 hours, she took opium gr. cxlviij., and sulph. morph. gr. lxxxj., or opium four hundred and seventy-two (472) grains. On the

third day, she took 236 grains. On the fourth, 120 grains. On the fifth, 54 grains. On the sixth, 22 grains. On the seventh day, 8 grains. After which, the treatment was wholly suspended. This woman was not addicted to drinking, and after her recovery, she assured me repeatedly that she did not know opium by sight, and had never taken it, or any of its preparations, unless it had been prescribed by a physician. This is, perhaps, "horrible dosing," and only justifiable as an experiment on a desperate disease. Yet this woman is alive to tell her story, as are several others who took surprising quantities of this drug. But later observations have shown that the tenth to the twentieth part of this maximum is efficient in controlling the disease. So this case is referred to, not for imitation, but because, with similar cases, it is a medical curiosity; and may, perhaps, open some new therapeutical views.

The results of the opium treatment in the hands of my professional friends in this city have not been uniformly successful. This was to have been expected. When the path to success is so narrow, and so little trodden, though beset with dangers on both sides, it is unavoidable that many will lose it. But I believe I am authorised in saying, that those who have seen most of this mode of medication, are most attached to it. It is not to be expected that in a disease so dangerous as the one under consideration, any plan can be uniformly successful, even with advantages of accurate diagnosis and early treatment; but, when it is remembered that the diagnosis between purulent metritis and puerperal peritonitis is not always easy,—and that this medication is successful in proportion to its early adoption,—we may probably find reason for its failure in other hands, as well as in my own.

By way of illustrating the vigilance and discretion which must be exercised in the administration of each successive dose of the opiate in this mode of treatment, I will add, that it could never have been fairly tested by me without the zealous, intelligent, and untiring assistance of the house-physicians of the Hospital. They visited the patients every hour by night as well as by day, and every dose of the medicine, from the first case to the last, was given by them, and proportioned to the hourly exigencies.

Notes on Yellow Fever in Charleston, S. C., in 1854. By Henry R. Frost, M. D.—The general character of the disease was similar to former years. Individual cases were more malignant than any previously witnessed. The type of the fever generally continued, lasting two, three, four, five and six days. As the season advanced, it assumed more of the remittent character.

Perspiration in some instances was profuse, even with a hot skin; in others, deficient throughout the continuance of the disease. Heat of the skin was often intense, leaving an impression of burning on the ends of the fingers.

The paroxysm in some instances was of the most violent character —with intense headache—rendering it wonderful how the brain could support such an impetus of blood to this part. The most violent pa-

roxysm of fever I have witnessed, occurred in a black man, spending his first summer in Charleston, who recovered.

As the season advanced natives were seized with the disease—several instances in adults—but children were more especially affected. The disease among them was of all grades, from simple excitement alone with warmth of skin, to the most violent action. The black vomit appeared among them as a symptom in the early stages of the disease, and passed off without its characteristic fatality. In one case a substance of a black appearance, mixed with blood, appeared in twenty-four hours after the invasion of the fever. This passed off in a few hours and the patient convalesced. The disease was of all grades—hence a variety of fevers were said to exist—but, in my opinion, they were all one and the same.

Many recovered after the black vomit, and in rather a larger ratio than in other years, among children especially. In some instances the most intense yellowness of the skin existed, without the corresponding changes in the stomach, attended with the secretion of black vomit.

The sensation of chilliness existed in some instances with extreme ardor of the skin—and while such a burning heat was evidenced by the skin, the patient would be calling for more bed clothes, and seemed only satisfied with half a dozen blankets. Such cases exhibited no peculiarly fatal tendency, the recovery being as great in such cases as others. (A striking instance of this feature of the disease occurred in a patient at Mr. Kennedy's.)

The disease generally attacked the members of the family who were predisposed one after another. Sometimes two would be taken down at the same time, but generally one followed another. The subsidence of the fever was in many instances followed by profuse perspiration, often attended with an icy coldness of the hands and feet, which by many was considered an evidence of the approach of death. This coldness continued twenty-four or thirty-six hours, unaffected by local applications or frictions, but would wear off with the renewed energies of the system. I was called up at night on one occasion to visit a child under these circumstances, who was supposed to be in a dying condition. Another symptom attendant upon the subsidence of the fever was pain in the abdomen between the umbilicus and pubis. This would continue twenty-four or forty-eight hours, leaving the patient ordinarily well.

The black vomit made its appearance in different stages of the disease. The ordinary period was the fourth or fifth day, but a case was related by Dr. Williman, in which the fever commenced with the vomito; and it occurred in a patient under my care, on the 7th day after convalescence had been established to all appearance, the patient being able to leave his bed, and even spoke of returning to his labors.

With the vomito the fever was often renewed, and in a violent manner. Not only was it attended with the ordinary gastric symptoms, but the brain sympathized strongly, and, in some instances, became the dominant disease. Patients have been relieved of the one, and fallen under the disorder of the other. The most formidable symptoms under these circumstances were convulsions, which continued one, two, or

three days; and, finally, only ceased with the expiring gaspings of the patient. Another formidable symptom was hæmorrhage. I need not describe the appalling appearance the occurrence of this symptom produces, and how much it adds to the horrors of this disease. It was my good fortune not to encounter this symptom in a single instance.

Was the disease contagious? I need only refer to the statement of the City Register for some facts upon this subject; with these facts you are familiar, and it is a circumstance much to be regretted that the strict regulations upon the subject of quarantine, recommended by the physicians of the city, and a member of Council, also a physician, had not been enforced. It would be much better to annihilate the West India commerce, than that such a calamity should again befall our community.

To the facts thus elicited on this occasion, let me add the extension of the disease to Blackville, Aiken, Augusta, Beaufort, and other places. But let us return to our own community. It is well known that when the disease appears in a family, the members generally susceptible to the disease are more or less affected. A gentleman of our city, with a family of four children, had the misfortune to have one of them taken down with the fever in a very violent form. Feeling apprehensive of the extension of the disease to others, the sick child was removed into a separate room, and none of the children allowed to see her—the result was that none were affected. It is probable that this domestic quarantine was instrumental in preserving the other members, who were similarly exposed, and in a situation not reputed healthy. Hence it became the practice to separate the sick from the well, and to remove, when it was practicable, the entire family from the diseased abode, and I believe in all instances with advantage.

The attack of the disease in children was at times sudden in the extreme. It has happened that the child had been playing in the yard the afternoon preceding its attack, to all appearance well and in high spirits. In the course of the evening it would be languid, drowsy, become feverish, and these symptoms increase to such a degree that in the night it would become delirious, and often to a fearful extent, with intense excitement. This delirium I have known removed by the affusion of cold water to the head—insomuch that the next morning the child has been relieved of all its symptoms—the fever seemingly extinguished by this operation. In other instances it has continued in a more moderate degree during the febrile stage, or it has been followed by convulsions, with apoplectic stupor and death. In adults the attack was often equally sudden—to the moment of seizure the person has been in possession of his usual health—suddenly he is seized with a violent chill, followed by fever. It would seem incredible that a poison of such virulence should lurk in the system for a period even of the most limited extent, without a preceptible derangement of some of the functions of the body.

The degree of exposure required to originate the disease in the system. The shortest period that can very well be ascertained is two hours. A case occurred in a countryman driving his cart into Mobile, who, after remaining two hours, returned home—the disease, becoming

developed in a very malignant form, terminated fatally. In our community it was not uncommon, after a residence of one, three or more days.

The protective influence of a former attack of the disease. In some families it was very decided—in some instances all the young members of the family being attacked, except one or two who had undergone the acclimating process in a former year.

In other instances a severe attack of fever, in 1852, has been followed by a severer, in 1854, with black vomit and death.

Yellow fever is not entirely subdued by a black frost. Several cases occurred after such changes in temperature.

In connection with yellow fever must be mentioned the gale of the 7th and 8th of September, which did more damage to the wharves and the shipping than any which has occurred for many years. The tide rose to a great height, and caused more destruction than the wind. For the particulars of this gale I must refer you to the daily journals of that date.

The event which I feel desirous of recording, is the new animation infused into the vegetable kingdom by this occurrence. By the violence of the wind and the spray of the salt water, the leaves of the trees were whipped about and killed, so that the branches became as bare as in the winter. In a short time a new crop began to make its appearance, and in a few weeks our trees were clothed with entirely new foliage, as fresh and green as in the spring, and growing with a rapidity equal to any thing witnessed at that season. Not only leaves, but a new crop of flowers. The trees most remarkable for this last peculiarity were, the peach, the wild mulberry, the apple, the wild orange, the fig, the Seville orange, and the elms.—*Charleston Med. Jour.*

On the use of Glycerine as an Internal Remedy. By J. L. Crawcour, M. D., of New Orleans.—I wish to draw attention, particularly at present, to the *special* action of glycerine on the economy, and the perfect safety with which it can be used as an internal remedy, For the past twelve months I have used it in every case of disease where formerly I should have used cod liver oil, and with superior benefit; for while it seems to possess all the remedial virtues of this latter agent, it is its superior in taste, in not disordering the digestion, and in its property of combining with any other remedy.

In several cases of phthisis, of scrofulous disease generally, in mesenteric disease in children, I have used it largely and successfully; and in children, its sweet and agreeable taste gives it a great advantage over cod liver oil, the only agent I can compare it with, in its therapeutic action. In addition to its special anti-strumous property, I find that it materially aids in the assimilation of salts of iron, especially of the iodide, and I now rarely order either iodine, or the iodide of iron, without combining them with glycerine. Quinine also, is soluble in it, without the aid of sulphuric acid, and to some slight extent is divested of its bitterness.

The dose in which I usually administer it is from one to three drachms three times daily, in an ounce of water; in from one to two

drachms, it, in a short period, relieves the cough, improves the digestive powers, and appears to increase the fat-producing principle in phthisical patients; in larger doses it has in a few instances produced nausea; it is, however, essentially necessary to its successful employment that it be obtained pure, and this is a matter of some difficulty, for it is ordinarily the result of the preparation of the common lead plaster, and consequently contains traces of lead, but by the process of Dr. Morfit, who decomposes lard, or oil, with hydrate of lime, it can be procured chemically pure, and at a very cheap rate. Should my communication induce other physicians to try it, the purpose of my writing to you will be answered, as it will be an equal boon to the physician and patient, if a remedy can be discovered equal in properties to cod liver oil and without its nauseous taste and smell.

I have recently tried it as a solvent for phosphorus, which latter we have hitherto hardly been able to use in medicine, as its solution in oil is so nauseous that we can rarely induce patients to swallow it, and its solution in ether is so dangerous that I question whether any physician of ordinary prudence would prescribe it. But in glycerine, it is not only nearly as soluble as in oil, but is miscible with water in all proportions, and is comparatively tasteless and odorless. About two grains dissolve readily in an ounce of boiling glycerine, and from experiments on myself, I consider it a powerful and a valuable stimulant. Of the above solution, which, after the nomenclature of Messrs. Cap and Garot, I would call the glycerole of phosphorus, I took one drachm in a wine-glassful of water, with which it intimately blended; there was hardly any taste or smell, and it did not produce those garlicky eructations said to be the result of the phosphorus in oil. Its effect on my system was that of a stimulant: in about half an hour the pulse became quickened, both at the wrist and at the temples, the cheeks flushed, the skin became warm and suffused with moisture, there was a certain amount of mental excitement, and after a short time there occurred a feeling of oppression at the præcordia, accompanied by palpitation of the heart, while after a certain time the cerebral excitement was followed by a slight feeling of confusion, accompanied by sleeplessness. Each time that it has been taken in this dose, it has, on myself, produced these same effects. I therefore look upon this quantity as excessive, and would suggest that if this remedy be used, it should be in doses ranging from ten to thirty minims. It may be combined with any other drug, and I look upon it as a valuable addition to our list of therapeutic agents; not that the use of phosphorus is new, but hitherto it has been excluded from us from the difficulty of finding a proper solvent—this now, I believe, has been discovered in glycerine. —*New Orleans Med. News & Hosp. Gaz.*

SURGERY.

Case of Resection of the Elbow-joint. By Henry H. Smith, M. D., Consulting Surgeon to the Philadelphia Hospital.—Terence ———, aged sixteen years, entered the Philadelphia Hospital Feb. 23d, 1854, in consequence of caries of the right elbow and anchylosis of the joint, consequent on a fall. The disorder having

existed for 18 months, and the arm been allowed to become anchylosed in the straight position, he was sent as a pauper to the Alms House and thence to the Hospital. After being in the house about eight months, he was presented to me at the commencement of my term of service in October. At this time, he was pale, anæmic and enfeebled by long continued disease and suffering, and exhibited symptoms of hectic fever; the elbow-joint was very much swollen, and the skin inflamed and thickened round the bend of the elbow, several ulcerated spots and fistulous orifices existing both on the front and back of the arm. On introducing a probe into two or three of these orifices, the bones were readily felt in a carious condition; there was also perfect inability to move the hand in pronation or supination, the least attempt at bending the elbow or pronating the hand causing him severe pain. As his right arm was thus rendered useless, and there was every prospect of his either dying of hectic fever or becoming a pauper for life, I decided on attempting to save the limb by resecting the diseased joint. Accordingly, on the 11th of October, 1854, after an appropriate preliminary treatment, I operated as follows:—

Operation.—The boy being fully etherized by a mixture of chloroform one part, ether three parts by weight, was laid on his belly with his face inclined to the side of the table, and a stout, round pillow placed on the front of the elbow as a support to the portion to be operated on, as well as with the view of favoring the flexion of the forearm, after the section of the olecranon process.

The arm being thus steadied, an H incision was made over the joint on its posterior face; the flaps turned up, the ulnar nerve dissected out of its trochlea, and held on the front side of the internal condyle, and the artery which accompanied it compressed at a point where it was wounded. Martin's circular saw being then applied to the shaft of the ulna, the olecranon process was soon removed, and the whole joint being thus laid open and found to be diseased, both the condyles of the humerus, as well as the epitrochlea, were sawed off by the same saw. The head of the radius being also diseased, it was excised from the neck of the bone by means of large and strong bone-nippers. So little hæmorrhage ensued on the operation that no ligatures were applied. The flaps were then loosely united by sutures, supported by a light bandage, and the boy placed in bed with the arm supported on a pillow in the semi-flexed position, the whole elbow being covered by cloths, wrung out of tepid water. At eight o'clock, P. M., his pulse was 90, and, as he was suffering, 60 drops of laudanum were given to allay the pain.

Oct. 12.—Slept well, better than for many weeks; suffers but little. Ordered chicken-broth and anodyne pro re nata.

Oct. 18.—Applied an obtuse angular splint to the front of the arm; ordered to sit up. *Oct* 24.—Applied a splint nearly of a right angle.

After this date the wound was dressed daily, the angle of the splint being gradually changed to a right angle, and then to one which semi-flexed the arm.

Jan. 15.—Terence can now move his elbow, so that his hand will

traverse an arc of forty degrees, and can pronate and supinate the hand quite well.

Remarks.—The advantages of the operation of resection in this case are so apparent as not to require much argument, the saving of a right arm in one dependent on his daily labor for his support, being sufficient evidence of its value as a means of treatment in similar cases.

As a class, few operations are more strikingly illustrative of the progress of conservative surgery than those of resections, yet the number of instances reported in the United States of its application to the upper extremity are by no means commensurate with the cases which might have thus escaped amputation. After a careful examination of a very considerable number of American medical periodicals I find only the following:—one by Dr. Thomas Harris, of Philadelphia, in 1836; one by Dr. Gurdon Buck, Jr., of New York, in 1841, another in 1843, and a third one in 1846; and one by Dr. J. Pancoast in 1842. These cases, with the present one, making only six instances in which this operation has been published. In every case no serious symptoms supervened on the operation, and the patient was relieved of the exhaustion and suffering attendant on the disease, besides obtaining a comparatively useful limb.

The entire head of the humerus was resected by Dr. Hunt, of Washington city, in 1818, and a large portion of the same bone (its head) was removed by Dr. Pinkney, of the Navy, in 1846. When we compare this limited number of operations with the numerous cases of diseased joints that have required it, we must admit that resections of the bones of the upper extremity have not received the attention that the benefits conferred by the operation might naturally lead us to anticipate, and it is with a view of calling professional notice to this useful class of operations that the present case has now been reported. —*Medical Examiner.*

Intense Cold as a Local Anæsthetic—Removal of Congenital Nævus, etc. By J. Mason Warren, M. D.—The patient was a young man having a congenital nævus, of a black color, and of large size, situated over the inner part of the knee-joint, below the patella. The tumor had remained of about the size of a dollar until within two years; since that time a supplementary tumor had appeared beneath the original, quite hard, extending into the adjacent cellular membrane, and apparently attaching itself to the synovial capsule. The whole tumor was sensitive in the highest degree, and at times so painful as to disable the patient from attending to business; even the contact of his clothes producing suffering. It was difficult to make a satisfactory examination, in consequence of his dread of the necessary manipulations. He was kept in a horizontal posture for a few days, dieted, and an evaporating lotion applied, to prepare him for the operation, which was done in the following manner. Excision being objectionable on account of the relations of the tumor to the surrounding organs, equal parts of pounded ice and salt were enclosed in a small gauze bag, and applied to the tumor for four minutes, when the

whole of it became congealed and of a white color, crackling under the touch. A narrow-bladed knife was then introduced beneath the skin, and the tumor freely cut up in every direction. The operation was entirely painless; the patient sitting up, and watching its progress with much interest, although previously shrinking on the mere approach of the fingers to the part. The above subcutaneous operation was repeated once or twice, and resulted in the absorption of a large part of the tumor, and entire relief from the morbid sensibility.

In a case of fascial paronychia, in which Dr. W. had recently employed the same method of anæsthesia, the painful incisions necessary to give exit to deep-seated pus were borne without shrinking, and he thought the cure more speedy than under the ordinary treatment. The same fact was remarked by the patient, who was a medical man, and an acute observer.

In one or two cases of operation involving vascular tumors, Dr. W. had found it of much service, during the progress of the dissection, to apply the freezing mixture, and thus temporarily arrest the hemorrhage, so as to allow of a more satisfactory prosecution of the subsequent steps of the operation.

In making the incisions in the congealed part, Dr. W. had observed it necessary to be rather more careful to maintain a firm hold of the knife, and to employ more force than in cutting the integument in its natural condition; otherwise the knife would slip off, and make an incision at some point not intended: this is, however, avoided by a little practice.

There are many cases to which the freezing mixture may be applied, but for more elaborate details reference must be made to the publications of Dr. Arnott, and other gentlemen abroad. In Europe this subject is at present attracting great attention, on account of the continued increase of deaths from chloroform.—*Boston Med. & Surg. Jour.*

EDITORIAL AND MISCELLANEA.

Advantages of Wilde's Instruments.—Communicated by J. Henry Clark, M. D., Newark, New Jersey.—I have found operations upon the ear, in my private infirmary, so greatly facilitated by a new ear-case, that I am induced to recommend it to the profession. It is made by carefully copying the instruments represented in the new work of William R. Wilde, of Dublin, republished in this country during the last year, which has done more for aural surgery and rational practice—indeed, *all* that has been made accessible to the American physician, since the publication of the work of Mr. Pilcher, which grew out of an essay written for the Fothergillian Medal in 1838. This work is more than a new book on the subject, it furnishes *advance*—it exhibits and proves, by tabular statements, that diseases of this organ are subject to the laws and are relieved by the same treatment as diseases occurring in some tissues in other parts of the body. This work divests some diseases of the ear of their obscurity, and explodes some obsolete views of pathology and practice. It is

understood, however, that this book is but the harbinger of better days, and that one or more will follow directly, furnishing the results of a still larger experience and improved practice.

But my object was, mainly to speak of a case of instruments, which, in my office, I now regard as indispensable. The tubular speculum is very much better than any thing before devised to examine the drum. This case contains two of different sizes, also a gorget-like instrument, for a speculum, to facilitate operations; an ingenious caustic holder, an instrument for examination and another for cutting operations, with a long, bent forceps complete the case, except what I have found of more practical advantage than all others, a most ingenious instrument for the purpose of moving and removing polypi of the meatus edimas. I have used this instrument three times within a few weeks, and have been greatly gratified with its exact adaptedness to the purpose for which it is devised. Until something better is invented, this ear-case supplies a place never before filled, and furnishes an important desideratum to all who treat diseases of the ear.

Letter from Prof. Brainard.

CHICAGO, *Feb. 10th*, 1855.

TO THE EDITORS OF THE NEW YORK JOURNAL OF MEDICINE.

GENTLEMEN:—In a review of the late volume of *Transactions of the American Medical Association*, which appeared in the number of your journal for January, I observe two statements which deserve a notice from me, lest by silence I might be considered as acquiescing in the erroneous impression which they are calculated to produce.

The first is, that the prize essay of the volume is a translation from the French, of a pamphlet, by David Brainard. Independently of the error in the name, this assertion is entirely destitute of foundation.

The second is, that it was originally presented to the Society of Surgery, at Paris, and was the paper on the "strength of which" I was elected a corresponding member of that Society. This statement is equally untrue.

The paper which I read before the Society of Surgery, and on the "strength of which" I was elected a corresponding member, was "On the injections of Iodine into the cavities and tissues of the body for the cure of spina bifida, hydrocephalus, œdema, erysipelas, etc." The Memoir on Ununited Fractures, etc., was barely alluded to in the report of M. Monod on the subject

This Memoir was printed and distributed for the purpose only of securing my claim to priority in certain points. It differs in many important particulars from the prize essay; it was never read before any society, nor presented for a prize, or examination, or report of a committee. Even if it had been, I am well aware that such a circumstance would in nowise affect its claim to be considered original, and that it is now, according to the usages of the highest scientific bodies, entitled to compete for a prize before any society which offers one for an original essay. In proof of this I beg to submit, among many instances which might be cited, the following:—

Dr. Leroy d'Etiolles, Jr., received, in the year 1853, a prize from the Academy of Medicine, for a paper on the question of the existence of paraplegia, not produced by myelitis. Three years before he had published a paper on this subject, and in his prize essay he merely added some new facts to prove the truth of this original view on the matter.

In 1852, Dr. Parola received a reward from the same Academy, for researches on the action of ergot, the results of which had been published many years before.

Dr. Gray published, in 1852 [*Proceedings of the Royal Society*, Jan. 15th], a paper on the Structure of the Spleen, which paper was presented two years afterwards to the Committee for awarding the Astley Cooper medal. Mr. Gray received the medal. It is worthy of notice that the regulations respecting the essays submitted to that Committee were exactly the same as those published by the American Association. It is evident, therefore, that unless the American Medical Association enforces rules altogether unusual and peculiar to itself, and that without publishing them beforehand, my Essay on Ununited Fractures, etc., was justly entitled to compete for the prize which it received.

I hope, gentlemen, you will think it a matter of justice to give this communication a place in your Journal; by so doing you will oblige

Your obedient servant,

DANIEL BRAINARD.

Remarks.—We cheerfully give insertion to the foregoing communication from PROF. BRAINARD. If we rightly understand his language, our errors consist,—*First:* In having mistaken his name. This error is due to the *Transactions*, and for the credit of this volume for accuracy we regret the mistake. *Second:* In considering the Prize Essay a translation from the French of a pamphlet by David (*alias* Daniel) Brainard. Our statement may have been *literally* incorrect, but it matters nothing to our purpose whether the former was actually a translation from the latter, or *vice versa*, provided they are essentially the same articles. That they are in every *material* particular the same, a careful comparison justifies us in asserting, notwithstanding the above statement, that they differ in many important particulars. There are, it is true, several slight omissions in the Essay, of sentences occurring in the Memoir, and *vice versa*. The most important of these is an opinion in regard to the action of the chips made by the perforater, which occupies two-thirds of a page in the Essay, and is contained in a single sentence in the Memoir, and the addition to the former of three new cases, (two of them too meagrely reported to be of any value,) and the omission of one from the Memoir. These differences, however, are entirely unimportant, and do not render the Essay one whit more complete than the Memoir. *Thirdly:* In stating that the French Memoir was presented to the Society of Surgery, Paris, and on the strength of which the author was elected a corresponding member of that Society. We are willing to receive Prof. Brainard's denial as a sufficient conviction of our error. It would have been more

satisfactory, however, if, instead of particularizing for what purpose this memoir was *not* presented to any society, he had stated explicitly whether as a whole, or *resumé*, it was ever brought formally before *any* society.

But the principal fact, and that which formed the basis of our former remarks, stands confessed by the author himself, that this Essay was published and circulated abroad before being submitted to the American Medical Association for its prize. This course Prof. Brainard justifies by referring to several examples, none of which, however, we can consider pertinent to his own case. In regard to the first two instances, it appears from Prof. Brainard's own statement, that some of the results merely of the authors' investigations were previously published, and not the complete essays which they subsequently laid before the prize committee. And so far from the paper, which Mr. Gray read before the Royal Philosophical Society, being, as asserted by Prof. Brainard, the same paper which was presented to the Astley Cooper prize committee, it contained, in fact, but a portion of the results of the investigations which form the basis of the elaborate work that has recently received a distinguished and merited honor. Quite different is the case of our National Association, which has bestowed its highest award of merit upon, and published in its annual transactions, an essay which is almost a literal transcript of a memoir recently published in France. We do not charge Prof. Brainard with duplicity or intentional wrong, for he evidently acted conscientiously and within what he deemed the legitimate purposes of the prize committee; but we believe the precedent thus established is dangerous and destructive to the objects contemplated in the establishment of an annual prize. The competition under the injunction of secrecy becomes a farce,—the encouragement and stimulus to original investigation and inquiry fails of its influence,—and the transactions of the Association take the subordinate and humiliating position of a medium for the republication of memoirs or papers already in circulation.—Eds.

American Medical Association.—The eighth annual meeting of the American Medical Association will be held in the city of *Philadelphia* on Tuesday, May 1, 1855.

The secretaries of all societies, and other bodies entitled to representation in the Association, are requested to forward to the undersigned correct lists of their respective delegations *as soon as they may be appointed;* and it is *earnestly* desired by the Committee of Arrangements that the appointments be made at as early a period as possible.

The following are extracts from Article Second of the Constitution:—

"Each local society shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half of this number. The Faculty of every regularly constituted medical college or chartered school of medicine shall have the privilege of sending two delegates. The professional staff of every chartered or municipal

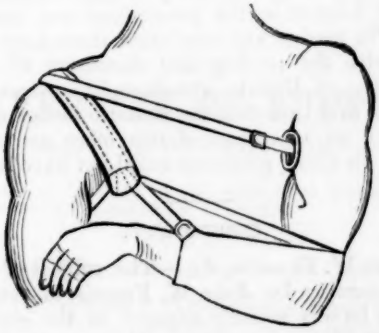
hospital, containing a hundred patients or more, shall have the privilege of sending two delegates, and every other permanently organized medical institution of good standing shall have the privilege of sending one delegate."

"Delegates representing the medical staffs of the United States Army and Navy shall be appointed by the chiefs of Army and Navy medical bureaux. The number of delegates so appointed shall be four from the army medical officers, and an equal number from the navy medical officers."

The latter clause, in relation to delegates from the army and navy, was adopted as an amendment to the Constitution at the meeting of the Association held in New York, in May, 1853.

FRANCIS WEST, M. D., 352 *Chestnut St., Philadelphia.*
One of the Secretaries.

Bartlett's Modification of Fox's Apparatus for fractured Clavicle.—We desire to call the attention of our readers to this very simple and effective instrument. The accompanying engraving will facilitate a conception of its application.



For an axilla pad, roll a strip of woolen flannel, 4 or 5 inches wide, around the axilla strap, to the size required. Put on the collar. Apply the pad, and pass the strap under the collar, thus securing each in its place. The sling, being first attached to the collar by the forward strap, is made to receive the arm of the side affected, when the straps at the back of the sling should be buckled, one behind, the other forward, to the ends of the collar, with the requisite tightness to reduce the fracture and maintain the ends in apposition.

The apparatus may be used for either side, by changing the attachment of the sling, as will be readily perceive. It may also be used for dislocation of the clavicle, fracture of the acromion process, and neck of the scapula.

American Medical Association. Prize Essays.—At the meeting of the American Medical Association held in St. Louis, (Mo.) in May last, the undersigned were appointed a committee to receive and examine such voluntary communications on subjects connected with medical science as individuals might see fit to make, and to award two prizes of one hundred dollars each to the authors of the two best essays. Notice is hereby given, that all such communications must be sent, post-paid, on or before the first day of April, 1855, to R. La Roche, M. D., Philadelphia. Each communication must be accompanied by a sealed packet, containing the name of the author, which will not be opened unless the accompanying communication be deemed worthy of a prize. Unsuccessful papers will be returned, on application to the Committee at any time after the first day of June, 1855; and the successful ones, it is understood, will be published in the *Transactions* of the Association.

R. La Roche, Phila., *Chairman.* Isaac Hays, Alfred Stille, J. B. Biddle, G. W. Norris, Joseph Carson, Joseph Leidy.

Philadelphia, Jan., 1855.

State Medical Society.—The annual meeting of the Medical Society of the State of New York was held on the 6th of February last, at Albany. There was an unusually large attendance, and a very marked degree of interest in the proceedings was manifested among the members. The session was continued three days and was principally occupied with the reading and discussion of papers. Prof. Frank H. Hamilton, of Buffalo, was elected president for the ensuing year. This is the first time that the western section of our State has been honored with an incumbent of this office, and a more worthy representative of its rising greatness could not have been selected.

OBITUARY.

Death of John W. Francis, Jr.—The subject of this notice was the son of the venerable Dr. John W. Francis, of this city. At the time of his death he was actively engaged in the study of medicine, and was a student of great promise. He was attacked with typhus fever while in attendance upon the lectures of the *University Medical College*, of which disease he died, after a short but severe illness, at the age of 22 years. His funeral was largely attended by the Students of the Class and profession generally.

Death of William Hyslop, M. D.—Died in this city, on the 26th of February, Dr. Wm. Hyslop, in the 26th year of his age, of typhus fever. Dr. Hyslop was a graduate of the *College of Physicians and Surgeons* of New York, and subsequently House Physician in Bellevue Hospital. He was a man of strong and generous impulses, warmly attached to his friends, and ardent in the pursuit of his profession.

PALMER'S PATENT LEG

HAS now attained a celebrity unparalleled in the history of Surgical mechanism. It has been subjected to the most critical examinations and comparisons, at thirty exhibitions of distinguished Scientific Societies, in common with every other substitute for the natural leg; and in every instance declared by eminent judges to be "the best Artificial Leg" extant.

In addition to thirty Gold and Silver Medals (*or first premiums,*) awarded the Inventor by Scientific Societies in the United States, he has, by the unanimous approval of an international council of distinguished Surgeons, been honored with the award of the PRIZE MEDAL at the World's Exhibition in London, and also the SILVER MEDAL (only first class prize,) at the Crystal Palace, New York, for "the best Artificial Leg." Pamphlets sent gratis to all who apply to

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APPARATUS FOR FRACTURED CLAVICLE.

DR. BARTLETT'S Modification of Dr. Fox's Apparatus for Fracture of the Clavicle, etc. For sale by Messrs. G. TIEMANN & Co., No. 63 Chatham street, New York, and Messrs. B. S. CODMAN & Co., No. 57 Tremont street, Boston. 1y

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UNIVERSITY OF BUFFALO.

MEDICAL DEPARTMENT.

The Annual Course of Lectures in this Institution commences on the *first* Wednesday in November, and continues 16 weeks.

FACULTY.

CHARLES B. COVENTRY, M.D., Emeritus Professor of Physiology and Medical Jurisprudence.
CHARLES A. LEE, M.D., Professor of Pathology and Materia Medica.
JAMES P. WHITE, M.D., Professor of Obstetrics and Diseases of Women and Children.
FRANK H. HAMILTON, M.D., Professor of Principles and Practice of Surgery.
GEORGE HADLEY, M.D., Professor of Chemistry and Pharmacy.
JOHN C. DALTON, Jr., M.D., Professor of Physiology and Morbid Anatomy.
EDWARD M. MOORE, M.D., Professor of Anatomy.
THOMAS F. ROCHESTER, M.D., Professor of Principles and Practice of Medicine.
SANDFORD B. HUNT, M.D., Demonstrator of Anatomy.

FEES.—Including Matriculation and Hospital Tickets, $75. Demonstrator's Ticket, $5. Graduation Fee, $20.

For further information address

THOMAS F. ROCHESTER, *Dean of the Faculty.*

BUFFALO, 1854.

☞A summer course of daily recitations and lectures, conducted by Drs. ROCHESTER and HUNT, will commence on the first Monday in April and end on the last Saturday in October.

Terms: $50 for the course, payable in advance.

COLLEGE
OF
PHYSICIANS AND SURGEONS,
NEW-YORK.

SPRING AND SUMMER LECTURES.

A Course of Lectures and Clinical Instruction will be given in this Institution, as usual, commencing early in April and continuing nine weeks; re-commencing in September and continuing till the beginning of the regular Winter Course in October.

Lectures will be given by Professors CLARK, WATTS, PARKER, GILMAN, and DALTON, and by Doctors LIDELL & ELLIOT.

Three Cliniques will be held every week.

These Lectures will be free to the Matriculated Students of the College.

MEDICAL INSTITUTION OF YALE COLLEGE.

The Course of Lectures, for 1854–5, will commence on Thursday, September 14th, and continue four months.

BENJAMIN SILLIMAN, M.D., LL.D., Prof. Emeritus of Chemistry and Pharmacy.
ELI IVES, M.D., Prof. Emeritus of Materia Medica and Therapeutics.
JONATHAN KNIGHT, M.D., Prof. of the Principles and Practice of Surgery.
TIMOTHY P. BEERS, M.D., Prof. of Obstetrics.
CHARLES HOOKER, M.D., Prof. of Anatomy and Physiology.
HENRY BRONSON, M.D., Prof. of Materia Medica and Therapeutics.
WORTHINGTON HOOKER, M.D., Prof. of the Theory and Practice of Physic.
BENJAMIN SILLIMAN, JR., M.D., Prof. of Chemistry and Pharmacy.
Lecture fees, $68.50. Matriculation, $5. Graduation, $15.

CHARLES HOOKER, *Dean of the Faculty.*

New Haven, May, 1854.

Castleton (Vt.) Medical College

There are two full Courses of Lectures annually in Castleton Medical College, the *Spring Session* commencing on the first Thursday in February, the *Autumnal Session* on the first Thursday in August. Each Course will continue four months.

JOSEPH PERKINS, M. D., Prof. of Materia Medica and Obstetrics.
WILLIAM SWEETSER, M. D., Prof. of Theory and Practice of Medicine.
MIDDLETON GOLDSMITH, M. D., Prof. of Surgery.
WILLIAM C. KITTRIDGE, A. M., Prof. of Medical Jurisprudence.
CORYDON LA FORD, M. D., Prof. of Anatomy and Physiology.
GEORGE HADLEY, M. D., Prof. of Chemistry and Natural History.
ADRIAN T. WOODWARD, M. D., Demonstrator of Anatomy.

FEES.—For Lectures $50. For those who have attended two Courses at other Colleges, $10. Matriculation, $5. Graduation, $16.

Board per week, $2, to 2,50. J. PERKINS, M. D., *Dean of the Faculty.*

CASTLETON, VT., Jan. 1, 1855.

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